FOREWORD

This manual contains an introductory description on the SUZUKI UY125/S and procedures for its inspection/service and overhaul of its main components. Other information considered as generally known is not included.

Read the GENERAL INFORMATION section to familiarize yourself with the motorcycle and its maintenance. Use this section as well as other sections to use as a guide for proper inspection and service. This manual will help you know the motorcycle better so that you can assure your customers of fast and reliable service.

- ** This manual has been prepared on the basis of the latest specifications at the time of publication. If modifications have been made since then, differences may exist between the content of this manual and the actual motorcycle.*
- ** Illustrations in this manual are used to show the basic principles of operation and work procedures. They may not represent the actual motorcycle exactly in detail.*
- ** This manual is written for persons who have enough knowledge, skills and tools, including special tools, for servicing SUZUKI motorcycles. If you do not have the proper knowledge and tools, ask your authorized SUZUKI motorcycle dealer to help you.*

⚠ WARNING

Inexperienced mechanics or mechanics without the proper tools and equipment may not be able to properly perform the services described in this manual.
Improper repair may result in injury to the mechanic and may render the motorcycle unsafe for the rider and passenger.

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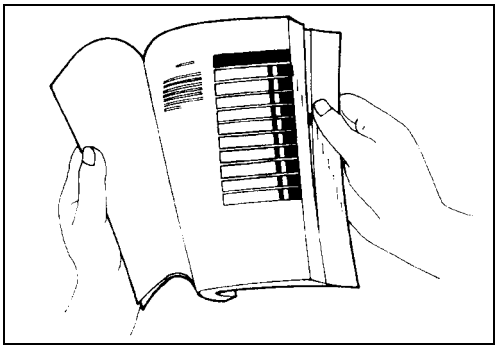
HOW TO USE THIS MANUAL
TO LOCATE WHAT YOU ARE LOOKING FOR:

1. The text of this manual is divided into sections.
2. The section titles are listed in the GROUP INDEX.
3. Holding the manual as shown at the right will allow you to find the first page of the section easily.
4. The contents are listed on the first page of each section to help you find the item and page you need.

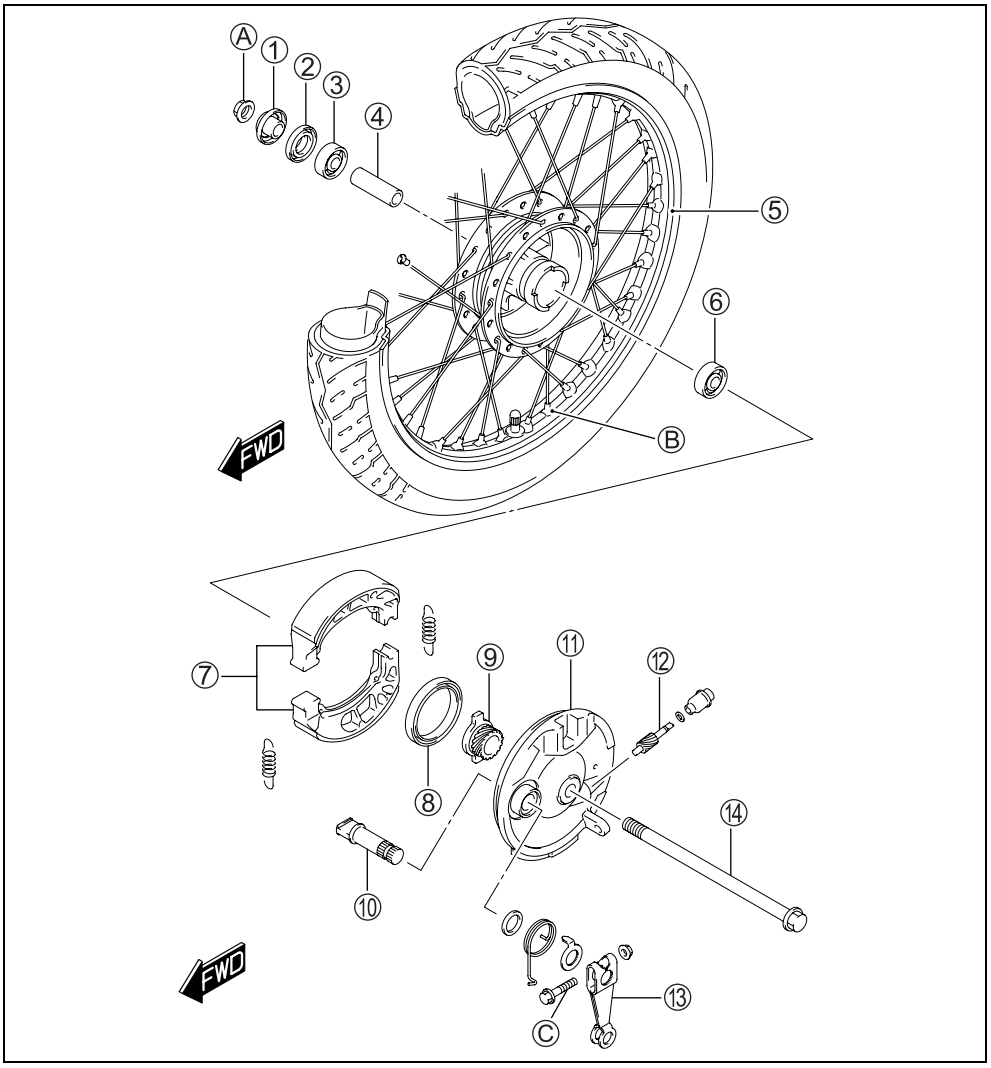


COMPONENT PARTS AND WORK TO BE DONE

Under the name of each system or unit, is its exploded view. Work instructions and other service information such as the tightening torque, lubricating points and locking agent points, are provided.
Example: Front wheel

①	Spacer
②	Dust seal
③	Bearing
④	Front wheel spacer
⑤	Front wheel
⑥	Bearing
⑦	Front brake shoe
⑧	Dust seal
⑨	Speedometer drive gear
⑩	Front brake camshaft
⑪	Front brake panel
⑫	Speedometer driven gear
⑬	Front brake cam lever
⑭	Front axle
Ⓐ	Front axle nut
Ⓑ	Spoke nipple
Ⓒ	Front brake cam lever bolt

ITEM	N·m	kgf-m
Ⓐ	42	4.2
Ⓑ	4.5	0.45
Ⓒ	8	0.8



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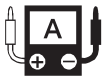
SYMBOL

Listed in the table below are the symbols indicating instructions and other information necessary for servicing. The meaning of each symbol is also included in the table.

SYMBOL	DEFINITION	SYMBOL	DEFINITION
	Torque control required. Data beside it indicates specified torque.		Apply THREAD LOCK SUPER “1360”. 99000-32130
	Apply oil. Use engine oil unless otherwise specified.		Use fork oil. 99000-99044-10G
	Apply molybdenum oil solution. (Mixture of engine oil and SUZUKI MOLY PASTE in a ratio of 1:1)		Apply or use brake fluid.
	Apply SUZUKI SUPER GREASE “A”. 99000-25010		Measure in voltage range.
	Apply SUZUKI SILICONE GREASE. 99000-25100		Measure in current range.
	Apply SUZUKI MOLY PASTE. 99000-25140		Measure in resistance range.
	Apply SUZUKI BOND “1215”. 99000-31110		Measure in diode test range.
	Apply SUZUKI BOND “1207B”. 99000-31140		Measure in continuity test range.
	Apply THREAD LOCK SUPER “1322”. 99000-32110		Use special tool.
	Apply THREAD LOCK “1342”. 99000-32050		Indication of service data.

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GENERAL INFORMATION

1

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COUNTRY AND AREA CODES

The following codes stand for the applicable country(-ies) and area(-s).

CODE	COUNTRY or AREA	EFFECTIVE FRAME NO.
P-14 (UY125)	Thailand	CF48A-TH ∗∗∗∗∗∗ –
P-14 (UY125S)	Thailand	CF48B-TH ∗∗∗∗∗∗ –

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WARNING/CAUTION/NOTE

Please read this manual and follow its instructions carefully. To emphasize special information, the symbol and the words WARNING, CAUTION and NOTE have special meanings. Pay special attention to the messages highlighted by these signal words.

⚠ WARNING

Indicates a potential hazard that could result in death or injury.

CAUTION

Indicates a potential hazard that could result in motorcycle damage.

NOTE:
Indicates special information to make maintenance easier or instructions clearer.

Please note, however, that the warnings and cautions contained in this manual cannot possibly cover all potential hazards relating to the servicing, or lack of servicing, of the motorcycle. In addition to the WARNINGS and CAUTIONS stated, you must use good judgement and basic mechanical safety principles. If you are unsure about how to perform a particular service operation, ask a more experienced mechanic for advice.

GENERAL PRECAUTIONS

⚠ WARNING

*** Proper service and repair procedures are important for the safety of the service mechanic and the safety and reliability of the motorcycle.**
*** When 2 or more persons work together, pay attention to the safety of each other.**
*** When it is necessary to run the engine indoors, make sure that exhaust gas is forced outdoors.**
*** When working with toxic or flammable materials, make sure that the area you work in is well-ventilated and that you follow all of the material manufacturer's instructions.**
*** Never use gasoline as a cleaning solvent.**
*** To avoid getting burned, do not touch the engine, engine oil, radiator and exhaust system until they have cooled.**
After servicing the fuel, oil, water, exhaust or brake systems, check all lines and fittings related to the system for leaks.

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CAUTION

*** If parts replacement is necessary, replace the parts with Suzuki Genuine Parts or their equivalent.**
*** When removing parts that are to be reused, keep them arranged in an orderly manner so that they may be reinstalled in the proper order and orientation.**
*** Be sure to use special tools when instructed.**
*** Make sure that all parts used in reassembly are clean. Lubricate them when specified.**
*** Use the specified lubricant, bond, or sealant.**
*** When removing the battery, disconnect the negative cable first and then the positive cable.**
*** When reconnecting the battery, connect the positive cable first and then the negative cable, and replace the terminal cover on the positive terminal.**
*** When performing service to electrical parts, if the service procedures do not require use of battery power, disconnect the negative cable from the battery.**
*** When tightening the cylinder head or case bolts and nuts, tighten the larger sizes first. Always tighten the bolts and nuts diagonally from the inside toward outside and to the specified tightening torque.**
*** Whenever you remove oil seals, gaskets, packing, O-rings, locking washers, self-locking nuts, cotter pins, circlips and certain other parts as specified, be sure to replace them with new ones. Also, before installing these new parts, be sure to remove any left over material from the mating surfaces.**
*** Never reuse a circlip. When installing a new circlip, take care not to expand the end gap larger than required to slip the circlip over the shaft. After installing a circlip, always ensure that it is completely seated in its groove and securely fitted.**
*** Use a torque wrench to tighten fasteners to the specified torque. Wipe off grease and oil if a thread is smeared with them.**
*** After reassembling, check parts for tightness and proper operation.**

*** To protect the environment, do not unlawfully dispose of used motor oil and other fluids: batteries and tires.**
*** To protect Earth's natural resources, properly dispose of used motorcycle and parts.**

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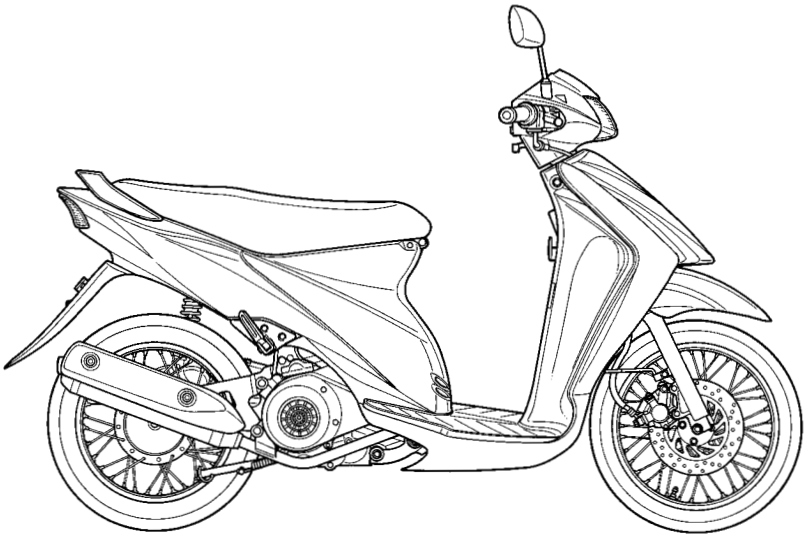
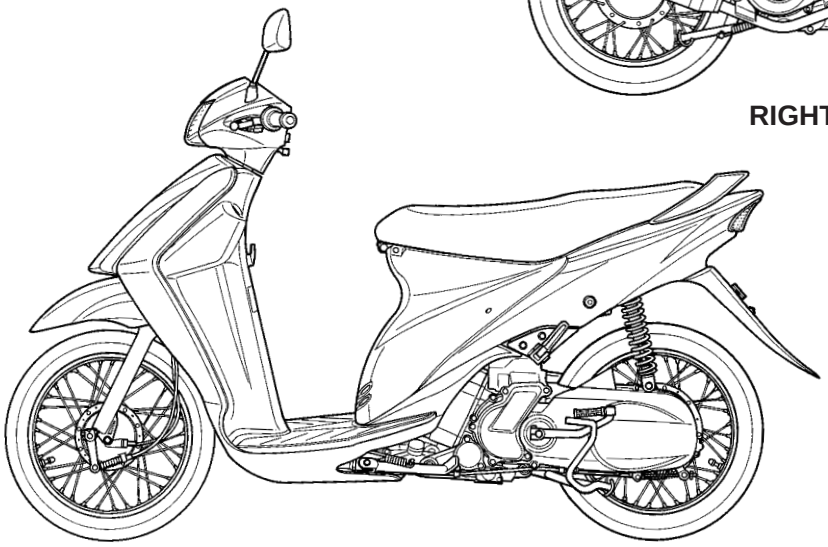
SUZUKI UY125K6/SK6 ('06-MODEL)



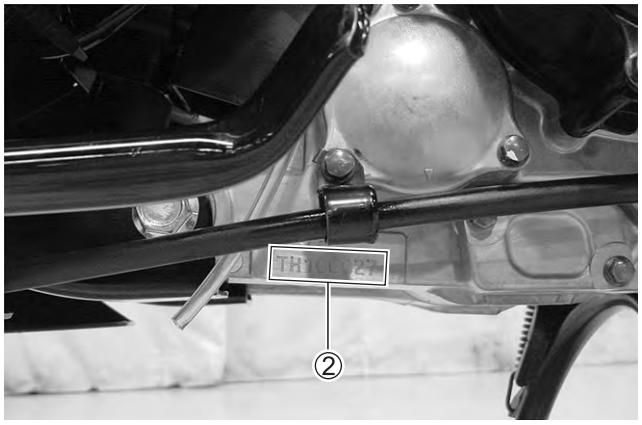
RIGHT SIDE (UY125S)



LEFT SIDE (UY125)

SERIAL NUMBER LOCATION

The frame serial number or V.I.N. (Vehicle Identification Number) ① is stamped on the left side of the steering head pipe. The engine serial number ② is located on the left side of the crankcase. These numbers are required especially for registering the machine and ordering spare parts.



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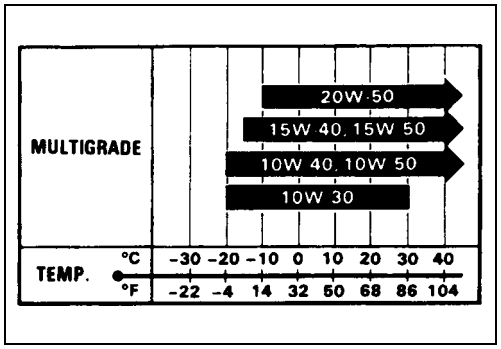
FUEL AND OIL RECOMMENDATION

FUEL

Gasoline used should be graded 91 octane (Research Method) or higher. Unleaded gasoline is recommended.

ENGINE OIL

Oil quality is a major contributor to your engine's performance and life. Always select good quality engine oil. Use of SF/SG or SH/SJ in API with MA in JASO.
Suzuki recommends the use of SAE 10W-40 engine oil. If SAE 10W-40 engine oil is not available, select an alternative according to the right chart.



REDUCTION GEAR OIL

Use a good quality SAE 10W-40 multi-grade motor oil.

BRAKE FLUID (UY125S)

Specification and classification: DOT 4

⚠ WARNING

Since the brake system of this motorcycle is filled with a glycol-based brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise serious damage will result.
Do not use any brake fluid taken from old or used or unsealed containers.
Never re-use brake fluid left over from a previous servicing, which has been stored for a long period.

FRONT FORK OIL

Use SUZUKI FORK OIL G10 (#10) or an equivalent fork oil.

BREAK-IN PROCEDURES

During manufacture only the best possible materials are used and all machined parts are finished to a very high standard but it is still necessary to allow the moving parts to "BREAK-IN" before subjecting the engine to maximum stresses. The future performance and reliability of the engine depends on the care and restraint exercised during its early life. Refer to the following throttle position recommendations.

- Keep to these break-in throttle positions:

Initial 800 km: Less than 1/2 throttle
Up to 1 600 km: Less than 3/4 throttle

- Upon reaching an odometer reading of 1 600 km you can subject the motorcycle to full throttle operation for short periods of time.

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SPECIFICATIONS

DIMENSIONS AND DRY MASS

Overall length	1 859 mm
Overall width	654 mm
Overall height	1 046 mm
Wheelbase	1 244 mm
Ground clearance	145 mm
Dry mass	94.2 kg UY125
	95.5 kg UY125S

ENGINE

Type	Four stroke, forced air-cooled, OHC
Number of cylinders	1
Bore	53.5 mm
Stroke	55.2 mm
Displacement	124 cm^3
Compression ratio	9.6 : 1
Carburetor	MIKUNI BS26
Air cleaner	Paper element
Starter system	Electric and kick
Lubrication system	Wet sump
Idle speed	1 600 ± 100 rpm

TRANSMISSION

Clutch	Dry shoe, automatic, centrifugal type
Reduction ratio	Variable change (2.700 – 0.825)
Final reduction ratio	9.264 (49/17 × 45/14)
Drive system	V-belt drive

CHASSIS

Front suspension	Telescopic, coil spring, oil damped
Rear suspension	Swingarm type, coil spring, oil damped
Front fork stroke	85 mm
Rear wheel travel	80 mm
Steering angle	45° (right and left)
Caster	25.6°
Trail	100 mm
Turning radius	1.9 m
Front brake	Drum brake UY125
	Disc brake UY125S
Rear brake	Drum brake
Front tire size	70/90-14 M/C (34 P), tube type
Rear tire size	80/90-14 M/C (40 P), tube type

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ELECTRICAL

Ignition type	Electronic ignition (CDI)
Ignition timing	10° B.T.D.C.at 1 600 rpm
Spark plug	NGK CR6HSA or DENSO U20FSR-U
Battery	12 V 12.6 kC (3.5 Ah)/10 HR
Generator	Single-phase A.C. generator
Fuse	10 A
Headlight	12 V 30/30 W
Turn signal light	12 V 10 W
Brake light/Taillight	12 V 18/5 W
Speedometer light	12 V 3.4 W
High beam indicator light	12 V 1.7 W
Turn signal indicator light	12 V 1.7 W

CAPACITIES

Fuel tank		3.7 L
Engine oil,	oil change	950 ml
	with filter change	1 050 ml
	overhaul	1 100 ml
Reduction gear oil,	oil change	100 ml
	overhaul	110 ml

These specifications are subject to change without notice.

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PERIODIC MAINTENANCE

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PERIODIC MAINTENANCE SCHEDULE

The chart below lists the recommended intervals for all the required periodic service work necessary to keep the motorcycle operating at peak performance and economy. Mileages are expressed in terms of kilometer and time for your convenience.

NOTE:
More frequent servicing may be performed on motorcycles that are used under severe conditions.

PERIODIC MAINTENANCE CHART

Item \ Interval	km	1 000	4 000	8 000
	months	5	20	40
Air cleaner		—	I	I
		Replace every 12 000 km.		
Exhaust pipe bolt and muffler bolt		T	—	T
Cooling fan filter		Clean every 3 000 km.		
Valve clearance		I	I	I
Spark plug		—	I	R
Fuel line		—	I	I
		Replace every four years.		
Engine oil		R	R	R
Engine oil filter		R	—	R
Idle rpm		I	I	I
Throttle cable play		I	I	I
Drive belt		—	I	I
Final reduction gear box oil		—	—	I
Brake		I	I	I
Brake hose (UY125S)		—	I	I
		Replace every four years.		
Brake fluid (UY125S)		—	I	I
		Replace every two years.		
Tire and wheels		—	I	I
Steering		I	—	I
Front fork		—	—	I
Rear suspension		—	—	I
Chassis bolt and nut		T	T	T

NOTE:
I = Inspect and adjust, clean, lubricate or replace as necessary
R = Replace
T = Tighten

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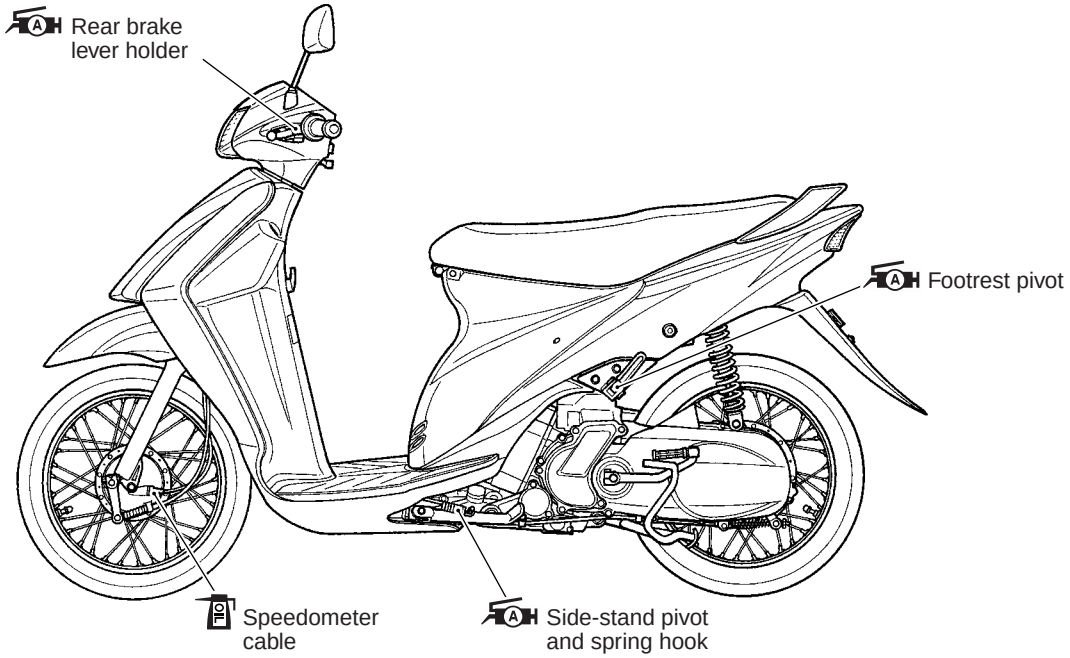
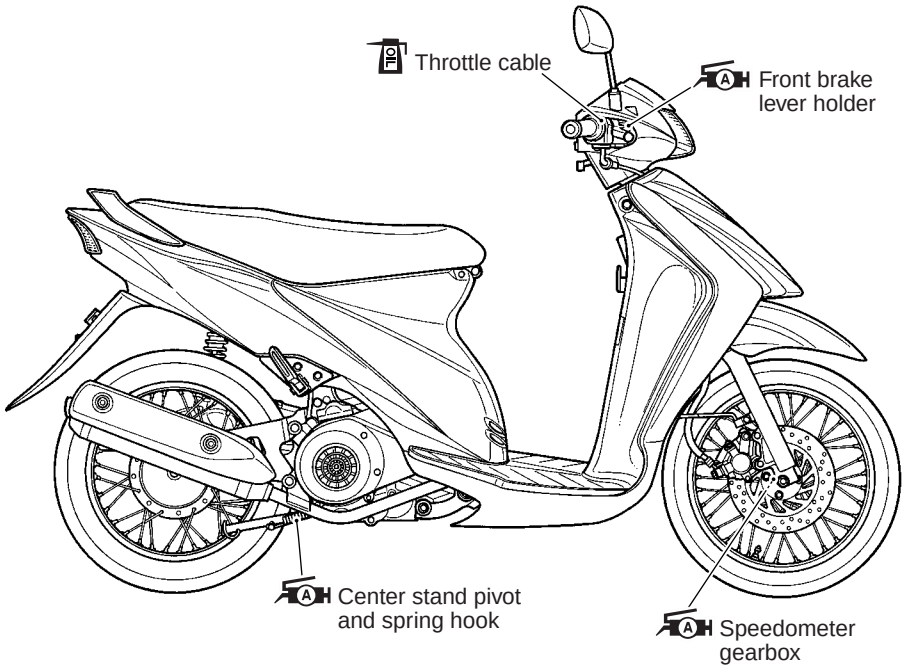
LUBRICATION POINTS

Proper lubrication is important for smooth operation and long life of each working part of the motorcycle. Major lubrication points are indicated below.





NOTE:

** Before lubricating each part, clean off any rusty spots and wipe off any grease, oil, dirt or grime.*

** Lubricate exposed parts which are subject to rust, with a rust preventative spray whenever the motorcycle has been operated under wet or rainy conditions.*

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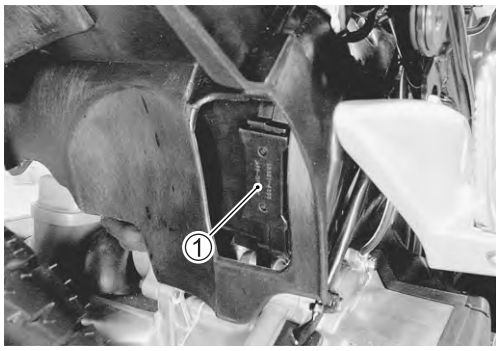
MAINTENANCE AND TUNE-UP PROCEDURES

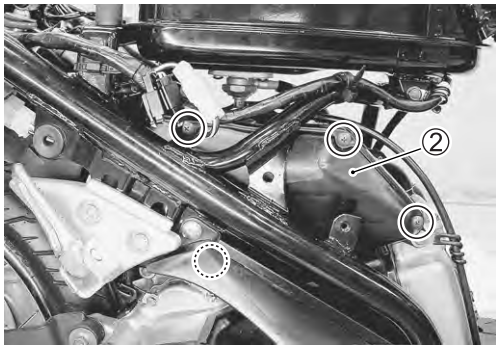
This section describes the servicing procedures for each item of the Periodic Maintenance requirements.

AIR CLEANER

Inspect every 4 000 km (20 months) and replace every 12 000 km thereafter.

- Place the motorcycle on the side stand.
- Remove the frame cover (left and right). (☞5-10)
- Remove the hook ①.
- Remove the air cleaner element box cap ② by removing the screws.





- Remove the air cleaner element ③.
- Inspect the air cleaner element for clogging.
  If the air cleaner element is clogged with dust, replace the air cleaner element with a new one.

CAUTION

Do not blow the air cleaner element with compressed air.

NOTE:
If driving under dusty conditions, replace the air cleaner element more frequently. Make sure that the air cleaner is in good condition at all times. The life of the engine depends largely on this component.

- Install a new air cleaner element in the reverse order of removal.

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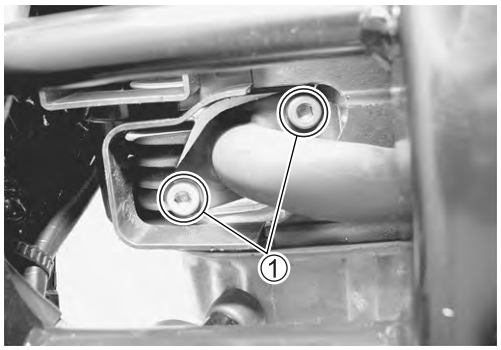
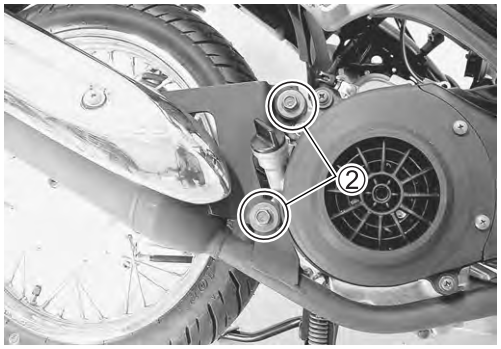
- Remove the drain plug from the air cleaner box to allow any water to drain out.

EXHAUST PIPE BOLT AND MUFFLER MOUNTING NUT

Tighten initially at 1 000 km (5 months) and every 8 000 km (40 months) thereafter.

- Tighten the exhaust pipe bolts ① and muffler mounting bolts ②.





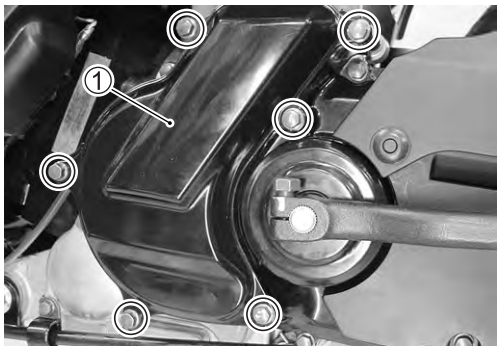
COOLING FAN FILTER

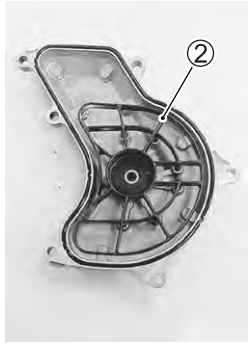
Clean every 3 000 km.

- Remove the cooling fan cover ①.
- Remove the holder ② and cooling fan filter ③.
- Clean the fan filter in the same manner of the air cleaner element.
- Reinstall the cleaned or new filter in the reverse order of removal.

CAUTION

Do not apply engine oil to the filter after cleaning it.





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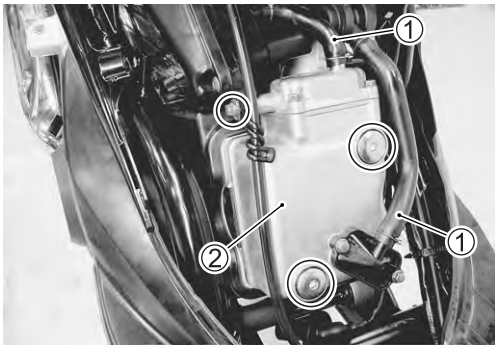
VALVE CLEARANCE

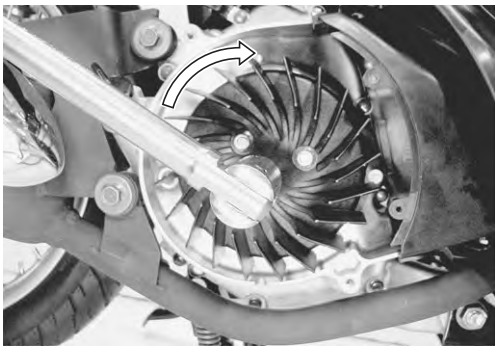
Inspect initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.



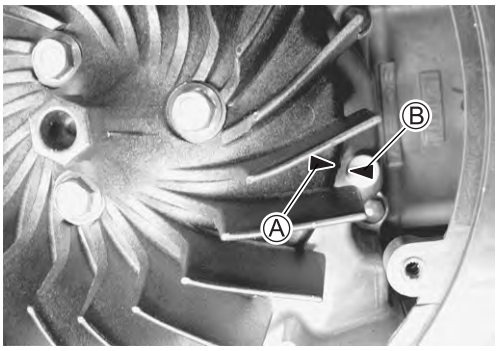
REMOVAL
- Remove the frame front cover. (☞5-8)
- Remove the spark plug. (☞2-7)
- Disconnect the breather hoses ① and remove the head cover ②.

INSPECTION
The valve clearance specification is same for both valves. Valve clearance adjustment must be checked and adjusted, 1) at the time of periodic inspection, 2) when the valve mechanism is serviced, and 3) when the camshaft is disturbed by removing it for servicing.

NOTE:
** The piston must be at (TDC) on the compression stroke in order to check the valve clearance or to adjust valve clearance.*
** The clearance specification is for COLD state.*
** To turn the crankshaft for clearance checking, rotate in the normal running direction. The spark plug should be removed.*



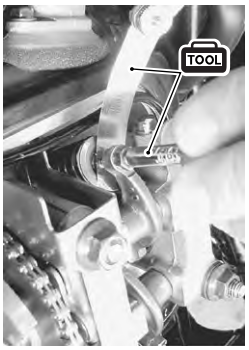
- Turn crankshaft to bring the "TDC" mark Ⓐ on the cooling fan to the index mark Ⓑ on the crankcase.

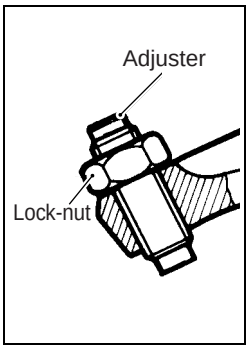


- Insert a thickness gauge between the valve stem end and the adjusting screw on the rocker arm.
  If the clearance is out of specification, bring it into the specified range.

DATA Valve clearance (when cold):
IN.: 0.04 – 0.07 mm
EX.: 0.10 – 0.15 mm

TOOL 09900-20803: Thickness gauge
09917-13210: Valve adjusting driver





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- After finishing the valve clearance adjustment, reinstall the following items.

* Cylinder head cover (☞3-11)
* Spark plug and plug cap (☞2-7)
* Frame front cover (☞5-8)

SPARK PLUG

Inspect at 4 000 km (20 months) and replace every 8 000 km (40 months) thereafter.

REMOVAL

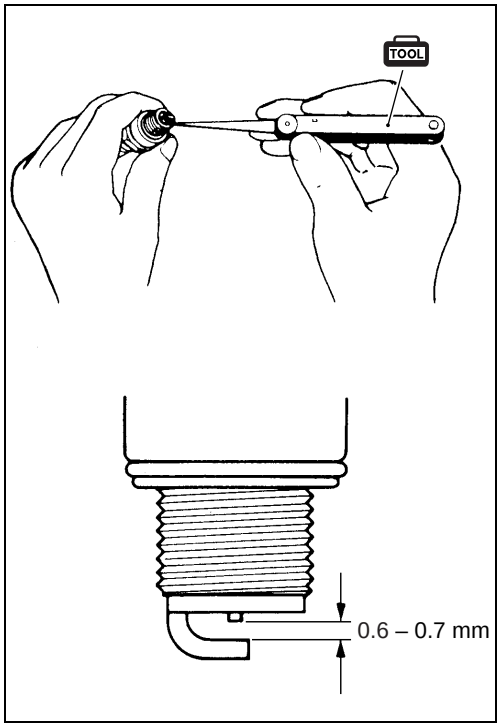
- Remove the frame front cover. (☞5-8)
- Disconnect the spark plug cap and remove the spark plug.

TOOL **09930-10121: Spark plug socket wrench set**

	Standard
NGK	CR6HSA
DENSO	U20FSR-U

CARBON DEPOSIT

Check to see the carbon deposit on the plug.
If the carbon is deposited, remove it with a spark plug cleaner machine or carefully using a tool with a pointed end.



SPARK PLUG GAP

Measure the plug gap with a thickness gauge if it is correct. If not, adjust it to the following gap.

DATA **Spark plug gap:**
Standard: 0.6 – 0.7 mm

TOOL **09900-20803: Thickness gauge**

ELECTRODE'S CONDITION

Check to see the worn or burnt condition of the electrodes. If it is extremely worn or burnt, replace the plug. And also replace the plug if it has a broken insulator, damaged thread, etc.

CAUTION

Confirm the thread size and reach when replacing the plug. If the reach is too short, carbon will be deposited on the screw portion of the plug hole and engine damage may result.

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INSTALLATION

CAUTION

Before using a spark plug wrench, carefully turn the spark plug by finger into the threads of the cylinder head to prevent damage the aluminum threads.

- Install the spark plug to the cylinder head by finger tight, and then tighten it to the specified torque.

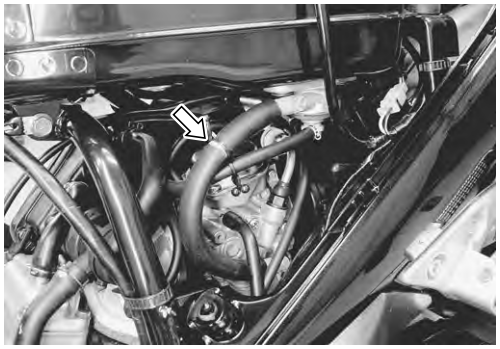
Spark plug: 11 N·m (1.1 kgf-m)

09930-10121: Spark plug wrench set

FUEL LINE

Inspect every 4 000 km (20 months) thereafter.
Replace every 4 years.

Inspect the fuel hoses for damage and fuel leakage. If any defects are found, the fuel hoses must be replaced.



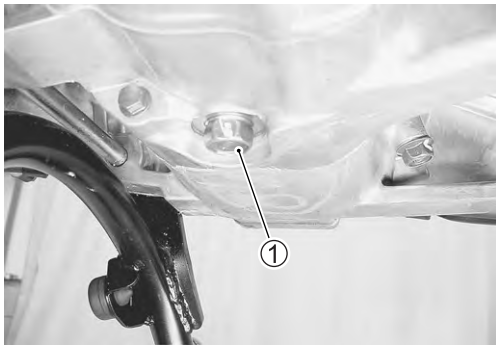
ENGINE OIL AND OIL FILTER

ENGINE OIL REPLACEMENT

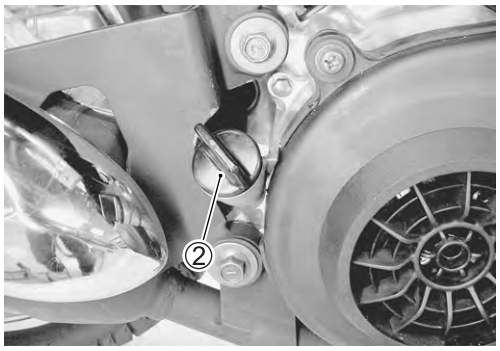
Replace initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.

- Keep the motorcycle upright.
- Place an oil pan below the engine. Drain oil by removing the engine oil drain plug ①.
- Remove the oil filler cap ②.
- Tighten the engine oil drain plug ① to the specified torque. Pour new oil through the oil filler hole. When performing an oil change (without oil filter replacement), the engine will hold about 950 ml of oil. Use an engine oil that meets API service classifications SF or SG and that has a viscosity rating of SAE 10W-40.

Engine oil drain plug ①: 18 N·m (1.8 kgf-m)



- Make sure that the engine is cooled.
- Place the motorcycle on level ground and hold it vertically.
- Install the oil filler cap ②.
- Start the engine and allow it to run for a few minutes at idling speed.



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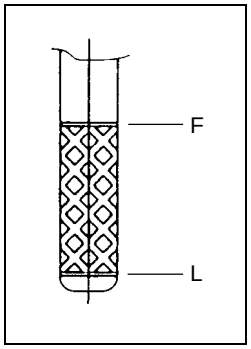
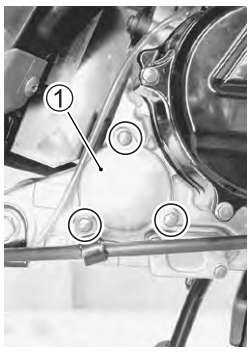
- Turn off the engine and wait minute, then check the oil level by removing the filler cap ②. If the level is below mark “L”, add oil to “F” level. (off the center stand, do not screw the filler cap.)
  If the level is above mark “F”, drain oil to “F” level.

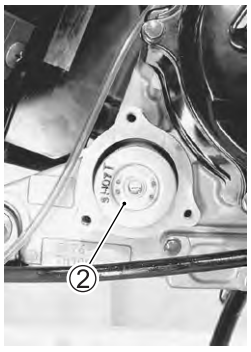


OIL FILTER REPLACEMENT

Replace initially at 1 000 km (5 months) and every 8 000 km (40 months) thereafter.

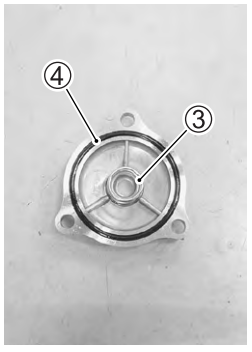
- Drain engine oil as described in the engine oil replacement procedure.
- Remove the oil filter cap ① and oil filter ②.
- Replace the oil filter with a new one.

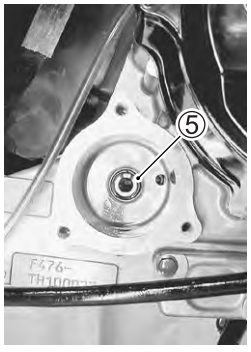




- Install the spring ③ correctly.
- Apply engine oil lightly to the O-rings ④ and ⑤.
- Install the oil filter cap and tighten the bolts securely.

Oil filter cap bolt: 10 N·m (1.0 kgf-m)





NOTE:

** Before installing the new oil filter and oil filter cap, make sure that the spring ③ and new O-rings ④, ⑤ are installed correctly.*

** The arrow mark Ⓐ on the oil filter cap should be positioned down.*

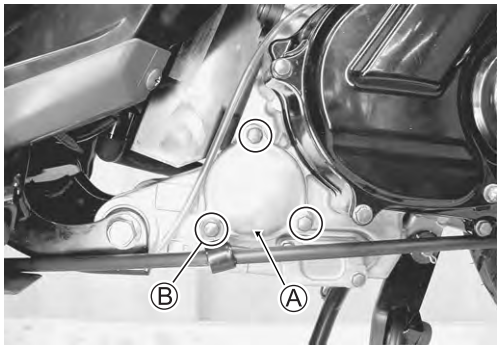
** Fit the clamp to the bolt Ⓑ.*

- Add new engine oil and check the oil level as described in the engine oil replacement procedure.

DATA Oil viscosity and classification:
10W-40 (SAE)/SF or SG (API)

DATA NECESSARY AMOUNT OF ENGINE OIL

Oil change	**:**	**950 ml**
Oil and filter change	**:**	**1 050 ml**
Engine overhaul	**:**	**1 100 ml**



CAUTION

Make sure that the oil filter is installed properly. If the filter is installed improperly, serious engine damage may result.

OIL SUMP FILTER CLEANING (☞3-19 and -57)

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ENGINE IDLE SPEED

Inspect initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.

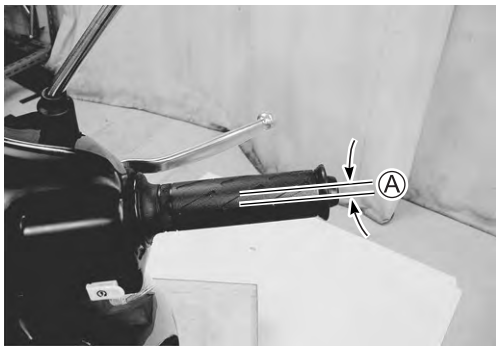
NOTE:
Make this adjustment when the engine is hot.

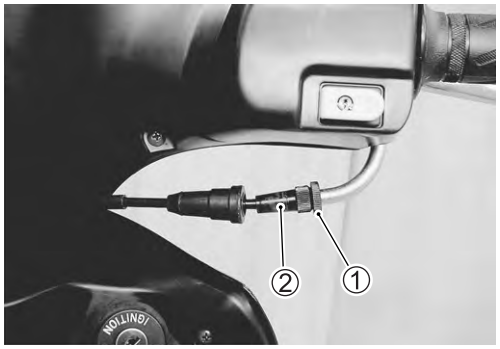
- Connect an electric tachometer.
- Start up the engine and set its speed at anywhere between 1 500 and 1 700 rpm by turning throttle stop screw.

Engine idle speed: 1 600 ± 100 rpm

TOOL 09900-26006: Tachometer

THROTTLE CABLE PLAY





Inspect initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.

Adjust the throttle cable play Ⓐ with the following procedures.

- Loosen the lock-nut ① of the throttle cable.
- Turn the adjuster ② in or out until the throttle cable play Ⓐ should be 2.0 – 4.0 mm at the throttle grip.
- Tighten the lock-nut ① while holding the adjuster ②.

Throttle cable play Ⓐ: 2.0 – 4.0 mm

⚠ WARNING

After the adjustment is completed, check that handlebar movement does not raise the engine idle speed and that the throttle grip returns smoothly and automatically.

NOTE:
Major adjustment can be made by the carburetor side adjuster.

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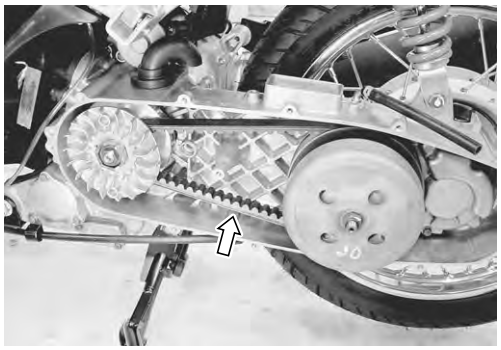
DRIVE BELT

Inspect every 4 000 km (20 months) thereafter.

- Keep the motorcycle upright.
- Remove the clutch cover. (☞3-10)

- Check the contact surface for crack or other damage. If crack or other damage exists, replace the belt with a new one.

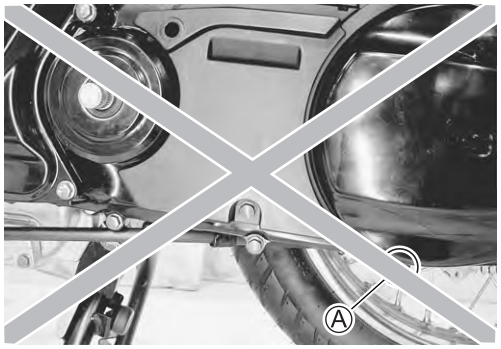


CAUTION

If grease or oil is present on the surface, decrease the belt thoroughly.

- Install the clutch cover. (☞3-72)

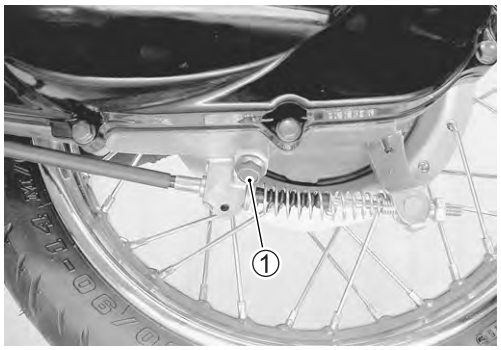
NOTE:
Drain water from the clutch cover by removing the drain bolt Ⓐ.



REDUCTION GEAR BOX OIL

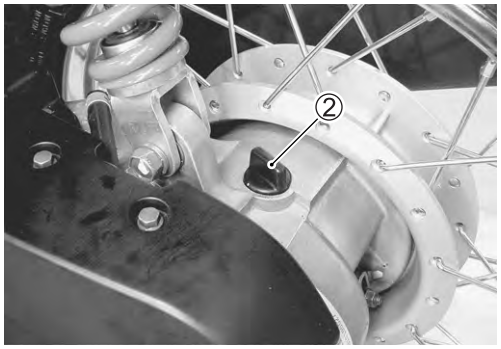
Inspect every 8 000 km (40 months) thereafter.

- Keep the motorcycle upright.
- Place an oil pan below the gear case, and drain oil by removing the oil drain plug ① and filler cap ②.
- Tighten the drain plug ①, and pour fresh oil through the oil filler.



Oil viscosity and classification: SAE 10W-40 with SF or SG

NECESSARY AMOUNT OF REDUCTION GEAR OIL
Oil change: 100 ml
Overhaul: 110 ml



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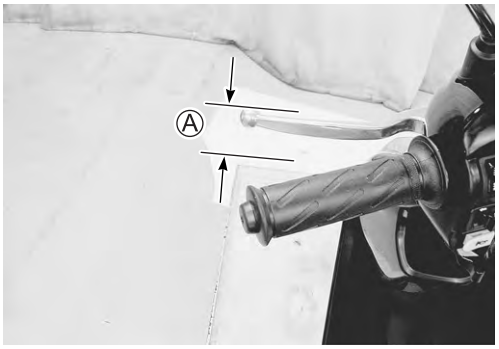
BRAKE

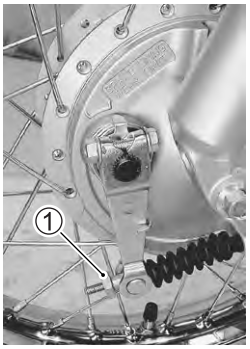
Inspect initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.

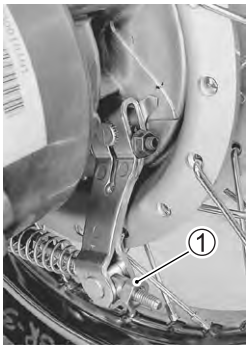


BRAKE LEVER PLAY

- Adjust the brake lever play by turning the adjusting nut ① so that the play Ⓐ is 15 – 25 mm as shown.

DATA **Brake lever play Ⓐ: 15 – 25 mm**



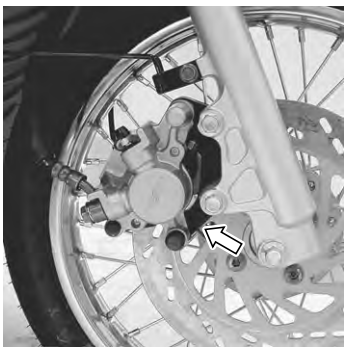


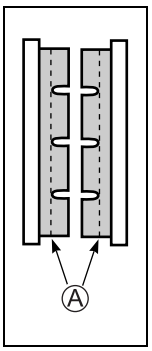
FRONT BRAKE PADS (UY125S)

The extent of brake pad wear can be checked by observing the grooved limit line Ⓐ on the brake pad. When the wear exceeds the grooved limit line, replace the pads with new ones. (☞5-25)

CAUTION

Replace the brake pads as a set, otherwise braking performance will be adversely affected.



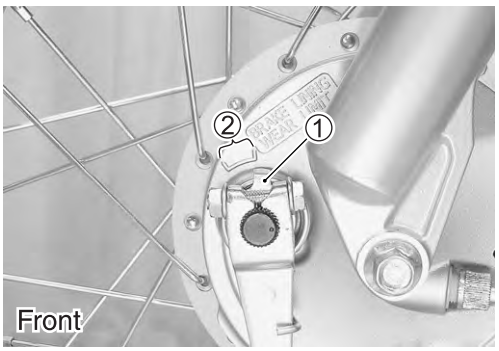


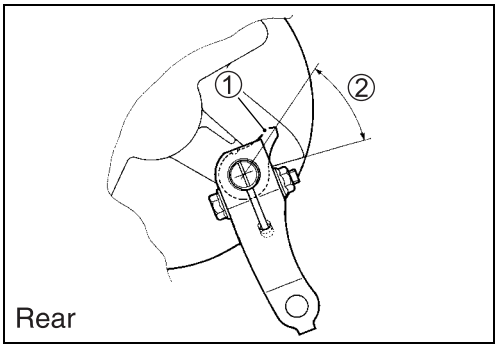
BRAKE SHOW WEAR

This motorcycle is equipped with the brake lining wear limit indicator on the brake.

To check wear of the brake lining, perform the following steps:

- First, check if the brake system is properly adjusted.
- While operating the brake, check to see that the tip of indicator ① is within the range ② on the brake panel.
- If the tip of indicator ① is beyond the range, the brake shoe assembly should be replaced with a new set of shoe. (☞5-13 and -49)





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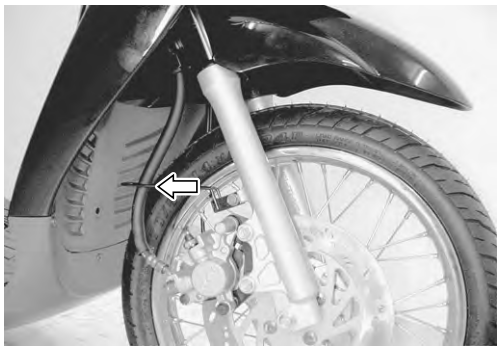
BRAKE HOSE AND BRAKE FLUID (UY125S)

Inspect every 4 000 km (20 months).
Replace hoses every 4 years. Replace fluid every 2 years.

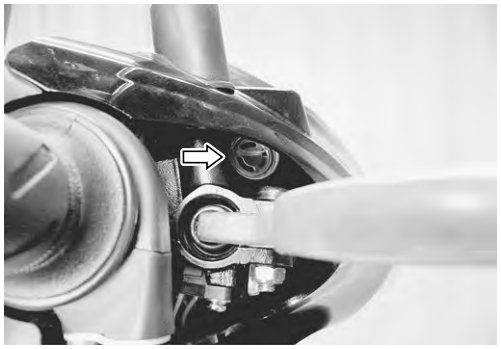
BRAKE HOSE

Check the brake hose for leakage, cracks, wear and damage. If any damages are found, replace the brake hose with a new one.



BRAKE FLUID LEVEL CHECK

- Keep the motorcycle upright and place the handlebars straight.
- Check the brake fluid level relative to the lower limit lines on the front brake fluid reservoirs.
- When the level is below the lower limit line, replenish with brake fluid that meets the following specification.



Specification and classification: DOT 4

⚠ WARNING

*** The brake system of this motorcycle is filled with a glycol-based brake fluid. Do not use or mix different types of fluid such as silicone-based and petroleum-based fluids. Do not use any brake fluid taken from old, used or unsealed containers. Never re-use brake fluid left over from the last servicing or stored for a long period of time.**

*** Brake fluid, if it leaks, will interfere with safe running and immediately discolor painted surfaces. Check the brake hoses and hose joints for cracks and fluid leakage before riding.**

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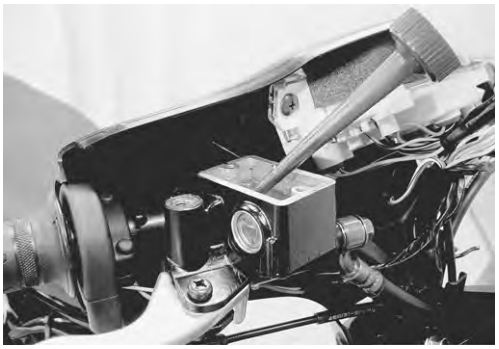
FRONT BRAKE FLUID REPLACEMENT

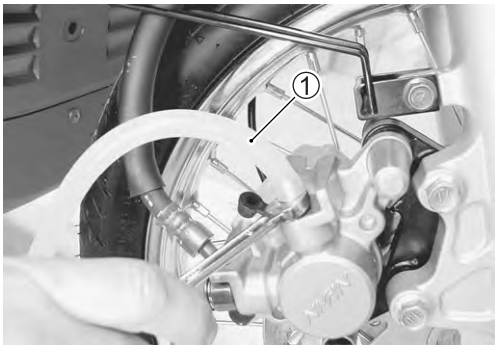
- Remove the handlebar cover. (☞5-5)
- Place the motorcycle on a level surface and keep the handlebar straight.
- Remove the front master cylinder reservoir cap and diaphragm.
- Suck up the old brake fluid as much as possible.
- Fill the reservoir with new brake fluid.

Specification and classification: DOT 4



- Connect a clear hose ① to the air bleeder valve and insert the other end of the hose into a receptacle.
- Loosen the air bleeder valve and pump the brake lever until the old brake fluid is completely out of the brake system.
- Close the air bleeder valve and disconnect the clear hose. Fill the reservoir with new brake fluid to the upper end of the inspection window.

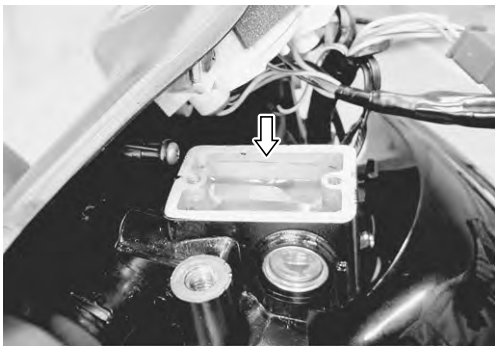
Air bleeder valve: 7.5 N·m (0.75 kgf-m)



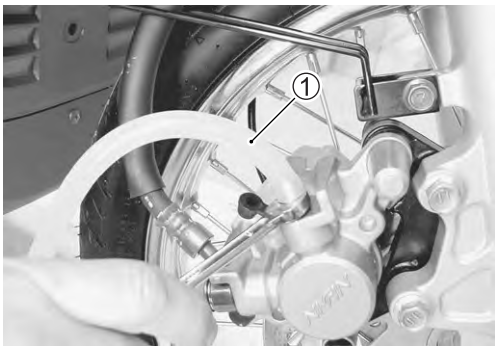
AIR BLEEDING FOR THE FRONT BRAKE FLUID CIRCUIT

Air trapped in the fluid circuit acts like a cushion to absorb a large proportion of the pressure developed by the master cylinder and thus interferes with the full braking performance of the brake caliper. The presence of air is indicated by “sponginess” of the brake lever and also by lack of braking force. Considering the danger to which such trapped air exposes the machine and rider, it is essential that, after remounting the brake and restoring the brake system to the normal condition, the brake fluid circuit be purged of air in the following manner:

- Fill up the master cylinder reservoir to the “UPPER” line. Place the reservoir cap to prevent entry of dirt.



- Connect a clear hose ① to the air bleeder valve, and insert the free end of the pipe into a receptacle.
- Front brake: Bleed the air from the air bleeder valve.



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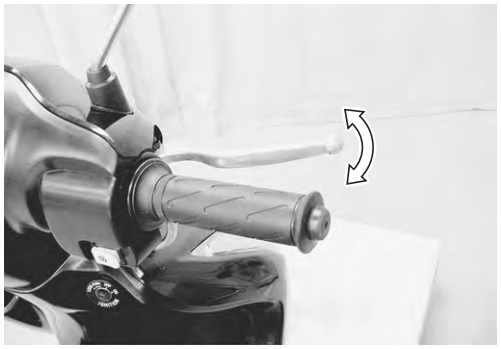
- Squeeze and release the brake lever several times in rapid succession and squeeze the lever fully without releasing it. Loosen the bleeder valve by turning it a quarter of a turn so that the brake fluid runs into the receptacle; this will remove the tension of the brake lever causing it to touch the handlebar grip. Then, close the valve, pump and squeeze the lever, and open the valve.

Repeat this process until the fluid flowing into the receptacle no longer contains air bubbles.

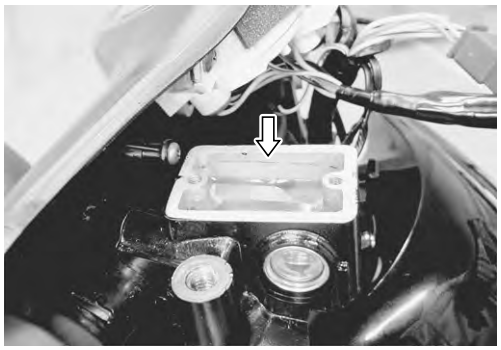


NOTE:
Replenish the brake fluid in the reservoir as necessary while bleeding the brake system. Make sure that there is always some fluid visible in the reservoir.

- Close the bleeder valve, and disconnect the clear hose.

Air bleeder valve: 7.5 N·m (0.75 kgf-m)

Fill the reservoir with brake fluid to the “UPPER” line.



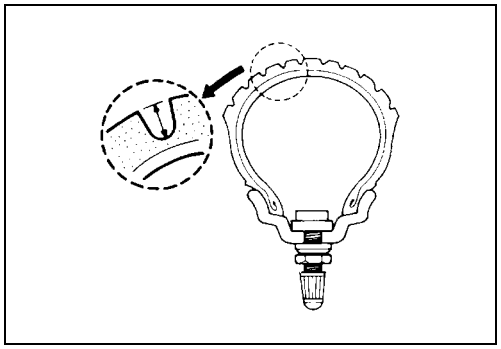
CAUTION

Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials and so on.

TIRE AND WHEELS

TIRE TREAD CONDITION

Inspect every 4 000 km (20 months).



Operating the motorcycle with excessively worn tires will decrease riding stability and consequently invite a dangerous situation. It is highly recommended to replace a tire when the remaining depth of the tire tread reaches the following specification.

09900-20805: Tire depth gauge

Tire tread depth:
Service Limit: FRONT: 1.6 mm
REAR: 1.6 mm

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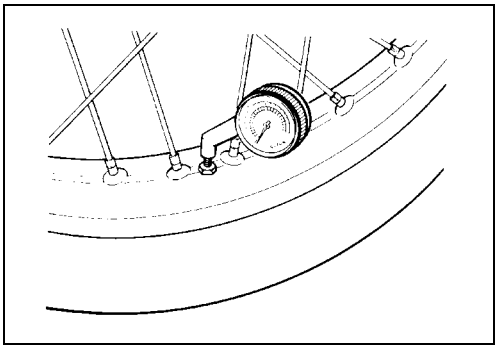
TIRE PRESSURE

If the tire pressure is too high or too low, steering will be adversely affected and tire wear will increase. Therefore, maintain the correct tire pressure for good roadability and a longer tire life. Cold inflation tire pressure is as follows.



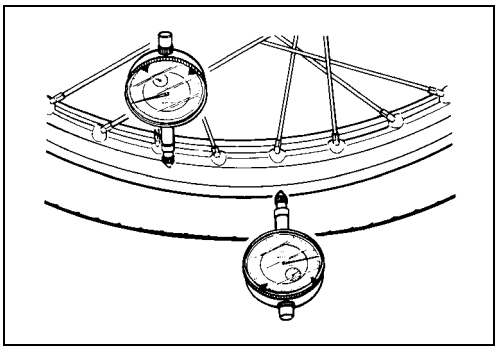
COLD INFLATION TIRE PRESSURE	kPa	kgf/cm^2
FRONT	175	1.75
REAR	225	2.25

CAUTION

The standard tire fitted on this motorcycle is a 70/90-14M/C 34P for the front and a 80/90-14M/C 40P for the rear. The use of tires other than those specified may cause instability. It is highly recommended to use the specified tires.

WHEEL

Make sure that the wheel runout (axial and radial) does not exceed the service limit when checked as shown. An excessive amount of runout is usually due to worn or loose wheel bearings and can be corrected by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

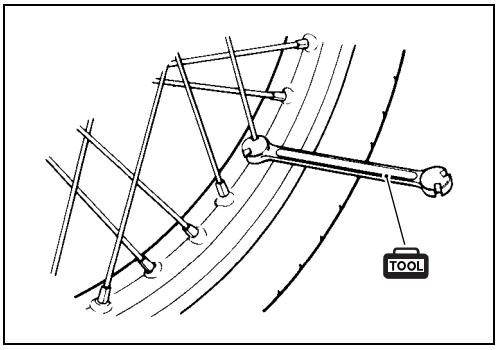


DATA **Wheel runout**

Service Limit (axial and radial): 2.0 mm

SPOKE NIPPLES

Make sure that the nipples are tight. If necessary, tighten them with a spoke nipple wrench.



Spoke nipple: 4.5 N·m (0.45 kgf-m)

TOOL **09940-60113: Spoke nipple wrench**

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STEERING

Inspect initially at 1 000 km (5 months) and every 8 000 km (40 months) thereafter.

The steering should be adjusted properly for smooth turning of handlebars and safe operation. Overtight steering prevents smooth turning of the handlebars and too loose steering will cause poor stability. Check that there is no play in the front fork. Support the motorcycle so that the front wheel is off the ground. With the wheel facing straight ahead, grasp the lower fork tubes near the axle and pull forward. If play is found, readjust the steering. (☞5-46)

FRONT FORK

Inspect every 8 000 km (40 months).

Inspect the front forks for oil leakage, scoring or scratches on the outer surface of the inner tubes. Replace any defective parts, if necessary. (☞5-34)

REAR SUSPENSION

Inspect every 8 000 km (40 months).

Inspect the rear shock absorber for oil leakage and mounting rubbers including engine mounting for wear and damage. Replace any defective parts, if necessary. (☞5-53)

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CHASSIS BOLTS AND NUTS

Tighten initially at 1 000 km (5 months) and every 4 000 km (20 months) thereafter.

Check that all chassis bolts and nuts are tightened to their specified torque. (Refer to page 2-19 for the locations of the following bolts and nuts on the motorcycle.)

ITEM	N·m	kgf-m
① Handlebar clamp bolt	60	6.0
② Steering stem lock-nut	90	9.0
③ Front fork clamp bolt	28	2.8
④ Front fork cap bolt	33	3.3
⑤ Front axle nut	42	4.2
⑥ Engine mounting nut	85	8.5
⑦ Rear axle nut	120	12.0
⑧ Front brake caliper mounting bolt (UY125S)	25	2.5
⑨ Front brake hose union bolt (UY125S)	23	2.3
⑩ Front brake disc bolt (UY125S)	23	2.3
⑪ Air breeder valve (UY125S)	7.5	0.75
⑫ Front brake master cylinder bolt (UY125S)	10	1.0
⑬ Rear shock absorber mounting nut (Upper & Lower)	29	2.9
⑭ Front brake cam lever nut (UY125)	8	0.8
⑮ Rear brake cam lever nut	11	1.1
⑯ Spoke nipple	4.5	0.45

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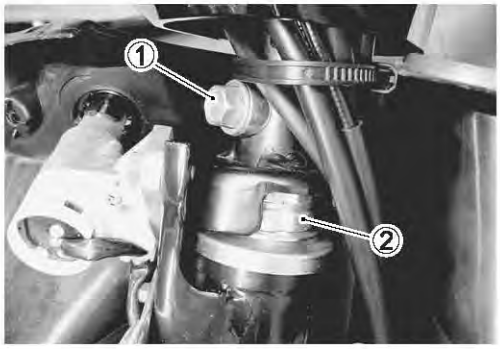

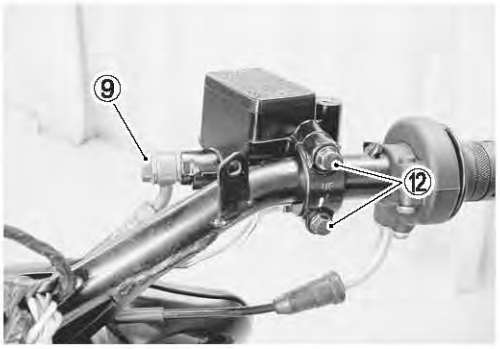

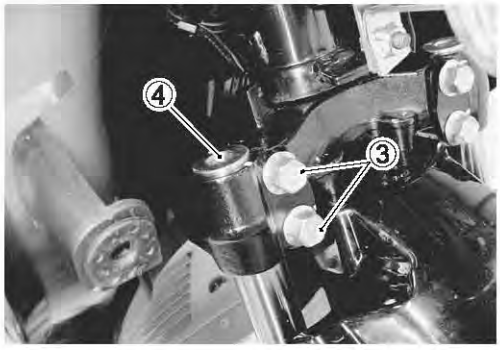

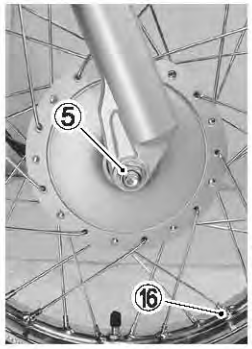

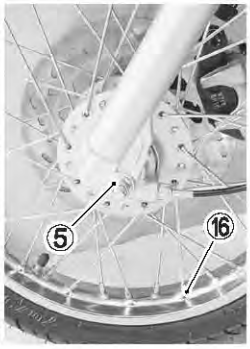

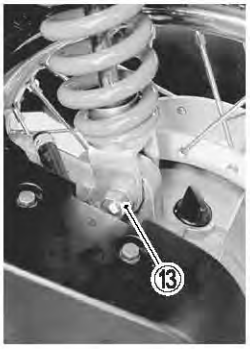

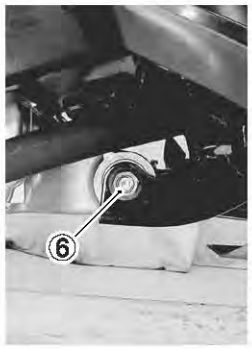

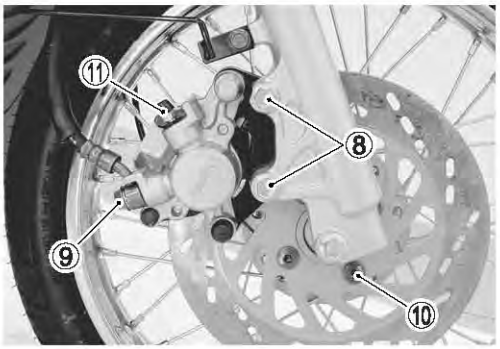

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COMPRESSION PRESSURE CHECK

The compression pressure reading of a cylinder is a good indicator of its internal condition.
The decision to overhaul the cylinder is often based on the results of a compression test. Periodic maintenance records kept at your dealership should include compression readings for each maintenance service.

COMPRESSION PRESSURE SPECIFICATION

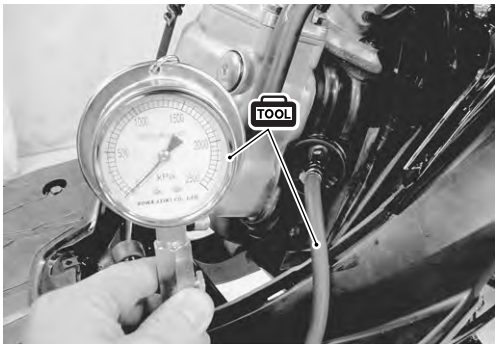
Standard	Limit
750 – 1 200 kPa (7.5 – 12 kgf/cm²)	650 kPa (6.5 kgf/cm²)

Low compression pressure can indicate any of the following conditions:

* Excessively worn cylinder walls
* Worn piston or piston rings
* Piston rings stuck in grooves
* Poor valve seating
* Ruptured or otherwise defective cylinder head gasket

NOTE:
When the compression pressure goes below specification, check the engine for conditions listed above.

COMPRESSION TEST PROCEDURE



NOTE:
** Before testing the engine for compression pressure, make sure that the cylinder head nuts are tightened to the specified torque values and the valves are properly adjusted.*
** Warm up the engine before testing.*
** Make sure that the battery is fully-charged.*

Remove the related parts and test the compression pressure in the following manner:

- Remove the spark plug. (☞2-7)
- Install the compression gauge and adaptor in the spark plug hole. Make sure that the connection is tight.
- Keep the throttle grip in the fully opened position.
- Press the starter button and crank the engine for a few seconds. Record the maximum gauge reading as the cylinder compression.

TOOL **09915-64512: Compression gauge**
09915-63311: Adaptor

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OIL PRESSURE CHECK

Check the oil pressure periodically. This will give a good indication of the condition of the moving parts.

OIL PRESSURE SPECISFICATION

18 – 40 kPa (0.18 – 0.40 kgf/cm²) at 3 000 rpm, Oil temp. at 60 °C.

If the oil pressure is lower or higher than specification, the following causes may be considered.

LOW OIL PRESSURE

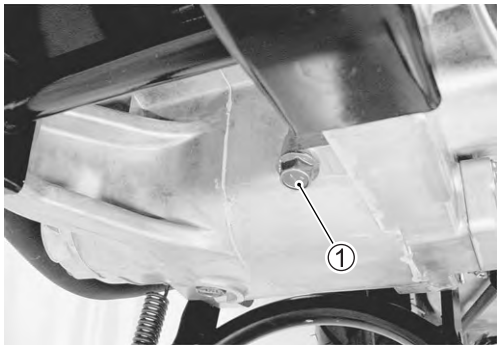
* Clogged oil filter
* Oil leakage from the oil passage
* Damaged O-ring
* Defective oil pump
* Combination of the above items

HIGH OIL PRESSURE

* Engine oil viscosity is too high
* Clogged oil passage
* Combination of the above items

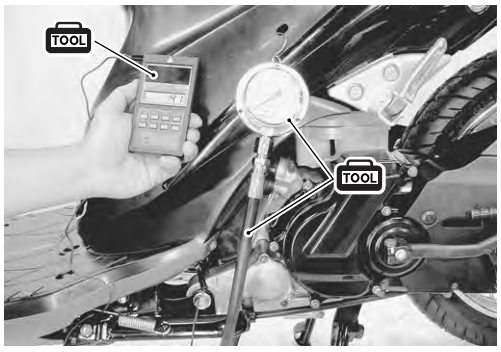
OIL PRESSURE TEST PROCEDURE

- Connect a tachometer to the high-tension cord.
- Remove the main oil gallery plug ①.
- Install the oil pressure gauge and adaptor into the main oil gallery.
- Warm up the engine as follows:
  Summer: 10 minutes at 2 000 rpm
  Winter: 20 minutes at 2 000 rpm
- After warming up the engine, increase the engine speed to 3 000 rpm (observe the tachometer), and read the oil pressure gauge.



TOOL 09915-74511: Oil pressure gauge
09915-74531: Adaptor
09900-26006: Tachometer

Main gallery plug: 12 N·m (1.2 kgf-m)



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AUTOMATIC CLUTCH INSPECTION

This motorcycle is equipped with an automatic clutch and variable ratio belt drive transmission. The engagement of the clutch is governed by engine RPMs and centrifugal mechanism located in the clutch.

To insure proper performance and longer lifetime of the clutch assembly it is essential that the clutch engages smoothly and gradually. The following inspections must be performed:

1. INITIAL ENGAGEMENT INSPECTION

- Warm up the engine to normal operating temperature.
- Remove the front frame cover. (☞5-8)
- Connect an electric tachometer to the high-tension cord.
- Seated on the motorcycle with the motorcycle on level ground, increase the engine RPM slowly and note the RPM at which the motorcycle begins to move forward.

TOOL 09900-26006: Tachometer

Engagement rpm: 2 900 – 3 500 rpm

2. CLUTCH "LOCK-UP" INSPECTION

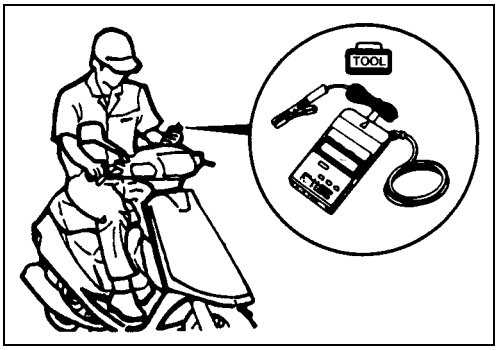
Perform this inspection to determine if the clutch is engaging fully and not slipping.

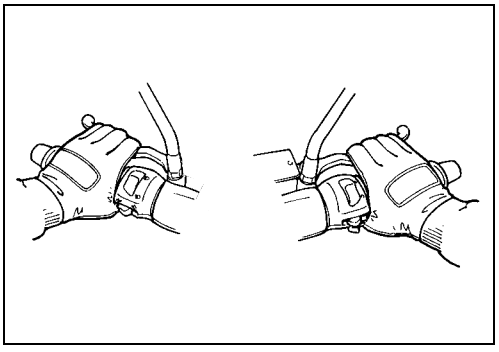
- Apply the front and rear brakes as firm as possible.
- Briefly open the throttle fully and note the maximum engine RPMs sustained during the test cycle.

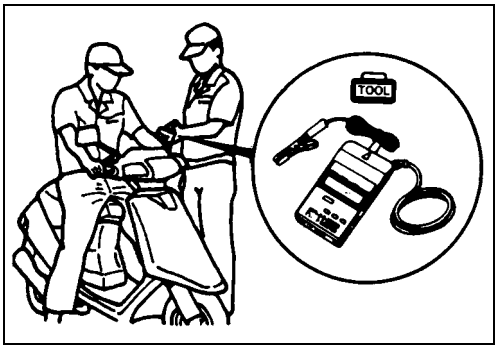
CAUTION

Do not apply full power for more than x seconds or damage to the clutch or engine may occur.

Lock-up rpm: 4 500 – 5 500 rpm







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ENGINE

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ENGINE COMPONENTS REMOVABLE WITH THE ENGINE IN PLACE

The parts listed below can be removed and reinstalled without removing the engine from the frame. Refer to page listed in each section for removal and reinstallation instructions.

ENGINE CENTER

PARTS	REMOVAL	INSTALLATION
Starter motor	☞3-10	☞3-71
Cylinder head cover	☞3-11	☞3-70
Camshaft	☞3-22	☞3-32
Camshaft sprocket	☞3-12	☞3-68
Carburetor	☞3-4	☞4-8
Cam chain tension adjuster	☞3-12	☞3-69
PAIR cut valve	☞3-11	☞3-71
Cylinder head	☞3-12	☞3-67
Cylinder	☞3-12	☞3-67
Piston	☞3-13	☞3-66
Intake pipe	☞3-11	☞3-71
Crankcase tube grommet	☞3-10	☞3-72

ENGINE LEFT SIDE

PARTS	REMOVAL	INSTALLATION
Fixed drive face	☞3-17	☞3-61
Movable drive face assembly	☞3-17	☞3-60
Clutch housing	☞3-17	☞3-60
Clutch shoe/movable driven face assembly	☞3-17	☞3-60
Drive belt	☞3-17	☞3-60
Reduction gear cover	☞3-18	☞3-59
Oil sump filter	☞3-19	☞3-57
Drive shaft	☞3-49	☞3-59
Air cleaner box	☞3-5	—
Spark plug	☞3-11	☞2-7
Oil filter	☞3-18	☞3-58
Kick starter lever	☞3-10	☞3-72
Cooling belt cover and duct	☞3-44	☞3-45
Clutch cover	☞3-10	☞3-72
Cylinder cowling left cover	☞3-11	☞3-71
Idle driven gear	☞3-18	☞3-59
Clutch upper cover and crankcase tube	☞3-6	—

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ENGINE RIGHT SIDE

PARTS	REMOVAL	INSTALLATION
Muffler	☞3-5	☞3-9
Fan cowling cover	☞3-11	☞3-71
Cooling fan	☞3-13	☞3-65
Starter idle gear	☞3-15	☞3-63
Magneto cover	☞3-14	☞3-63
Magnetorotor	☞3-15	☞3-62
Oil pump	☞3-16	☞3-61
Cylinder cowling right cover	☞3-11	☞3-71

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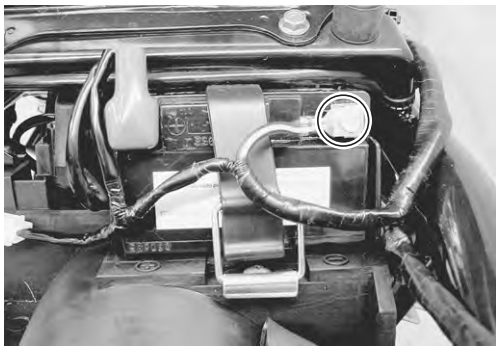
ENGINE REMOVAL AND INSTALLATION

ENGINE REMOVAL

Before taking the engine out of the frame, wash the engine using a steam cleaner. Engine removal is sequentially explained in the following steps. Reinstall the engine by reversing the removal procedure.

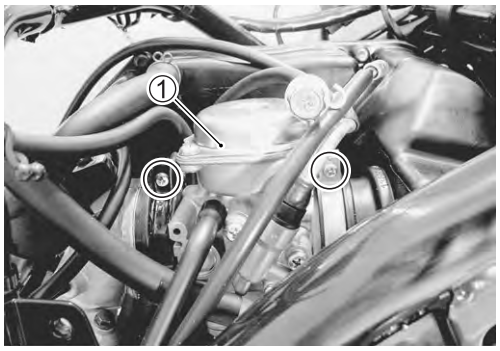
- Remove the front frame cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the frame covers (left and right). (☞5-10)

- Disconnect the battery ⊖ lead wire.
- Remove the fuel tank. (☞4-2)
- Drain engine oil. (☞2-8)



- Disconnect the starter motor lead wire.

- Remove the carburetor ①. (☞4-8)



- Disconnect the head cover breather hose ② and PAIR hose ③.

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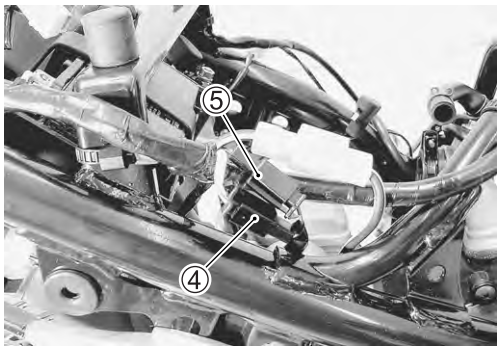
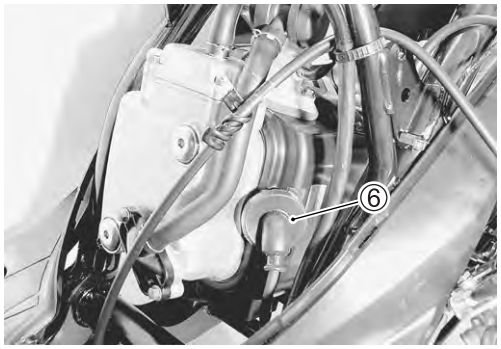
- Remove the air cleaner box.

- Disconnect the magneto lead wire coupler ④ and pick-up coil lead wire coupler ⑤.



- Remove the engine ground bolt.

- Disconnect the spark plug cap ⑥.



- Remove the exhaust pipe bolts.

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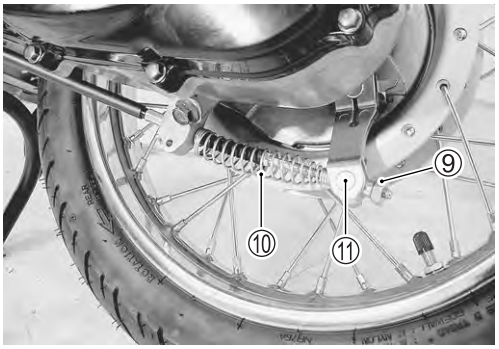
- Remove the muffler mounting bolts and then remove the muffler ⑦.

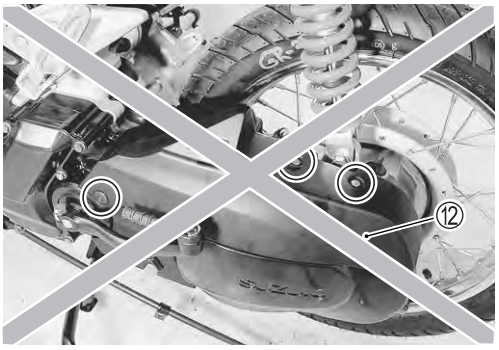
- Remove the rear brake cable clamp bracket ⑧.

- Remove the rear brake cable adjuster nut ⑨, spring ⑩ and pin ⑪.



- Remove the rear brake cable clamp.

- Remove the clutch upper cover ⑫.
- Remove the crankcase tube ⑬.



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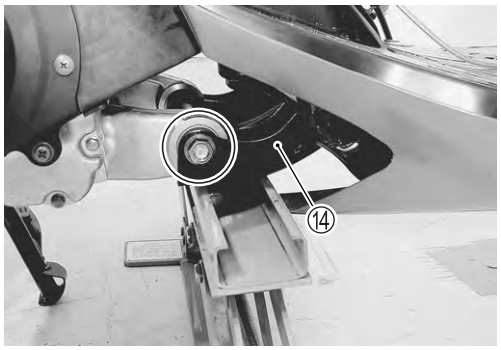
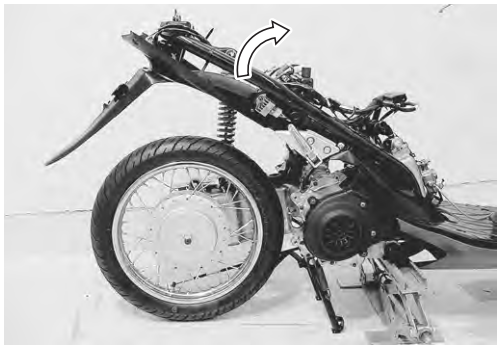
- Support the engine using a jack.
- Remove the rear shock absorber lower mounting bolt.

- Remove the engine mounting bolt and nut.

NOTE:
Never remove the crankcase bracket ⑭ from the frame.



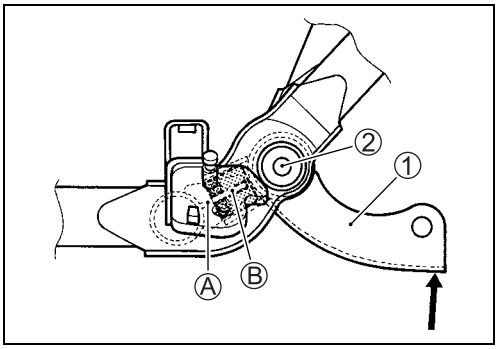
- Remove the engine from the frame.



ENGINE REMOUNTING

Remount the engine in the reverse order of removal. Pay attention to the following points:

- Install the crankcase bracket ① to the frame and insert the crankcase bracket mounting shaft.
- Push up on the rear part of the crankcase bracket ① and have the damper Ⓑ touch the stopper Ⓐ. While holding the damper, tighten the engine mounting bracket nut ② to the specified torque.

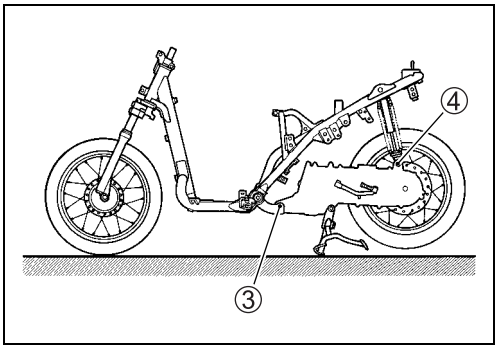


Crankcase bracket nut: 102 N·m (10.2 kgf-m)

- Install the engine and tighten the engine mounting nut ③ to the specified torque.

Engine mounting nut: 85 N·m (8.5 kgf-m)

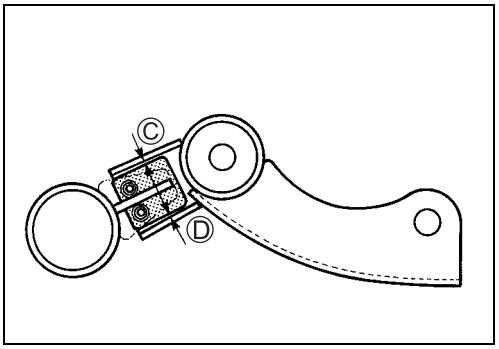
NOTE:
When tightening the engine mounting nut, make sure that the front wheel is elevated.



- Tighten the rear shock absorber lower mounting nut ④ to the specified torque.

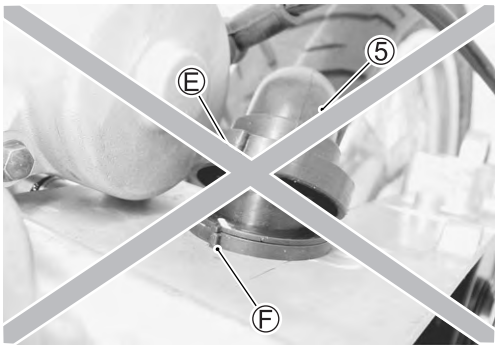
Rear shock absorber mounting bolt: 29 N·m (2.9 kgf-m)

NOTE:
** Place 65 kg on the seat, after installing the engine.*
** Check that clearance Ⓒ and Ⓓ are equal. If clearances Ⓒ and Ⓓ are not equal, repeat the engine installation procedures.*



- Install the crank case tube ⑤.

NOTE:
Set the crankcase tube Ⓔ to the crankcase tube grommet Ⓕ.
(☞7-23)



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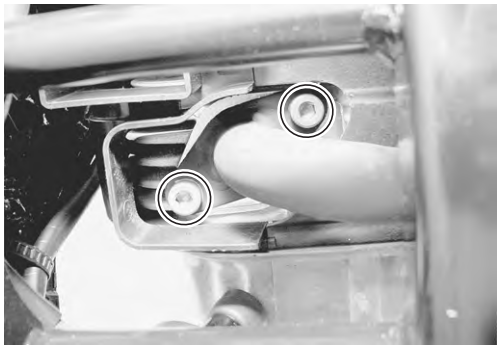
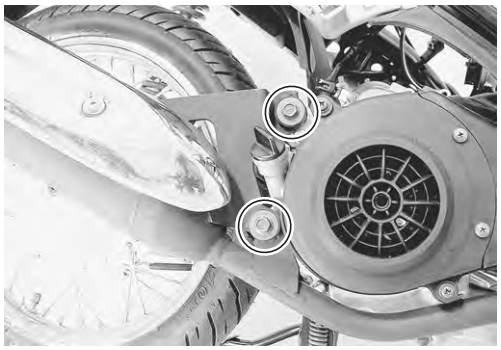
- Install the muffler.

CAUTION

Replace the gasket with new one.





- After installing the engine, properly route the wire harness, cables, and hoses. Refer to the wire and cable routing sections. (☞7-12 to -19)
- Refer to the following sections to adjust the respective items to specification.

*** ENGINE OIL (☞2-8)**
*** REDUCTION GEAR OIL (☞2-11)**
*** THROTTLE CABLE PLAY (☞2-10)**
*** ENGINE IDLE SPEED (☞2-10)**
*** REAR BRAKE CABLE ADJUSTMENT (☞2-12)**

- Check for leakage of the engine oil and reduction gear oil.

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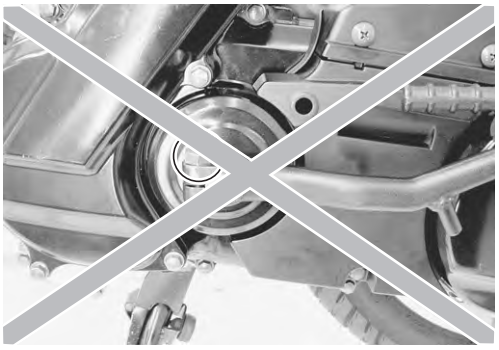
ENGINE DISASSEMBLY

CAUTION

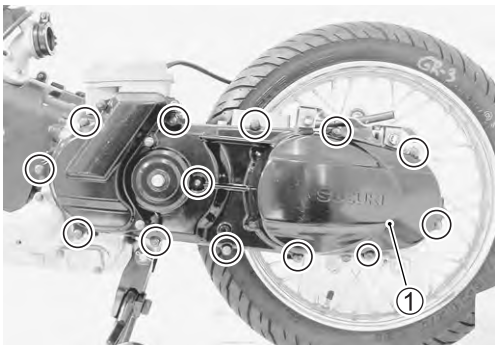
Identify the position of each removed part. Organize the parts in their respective groups so that they can be reinstalled in their original positions.

CLUTCH COVER

- Remove the kick starter lever.

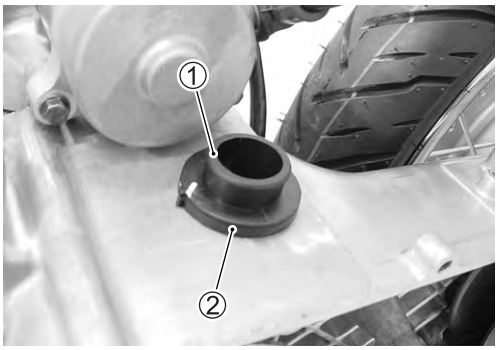


- Remove the clutch cover assembly ①.



CRANKCASE TUBE GROMMET

- Remove the crankcase tube grommet No.1 ① and No.2 ②.



STARTER MOTOR

- Remove the starter motor ①.

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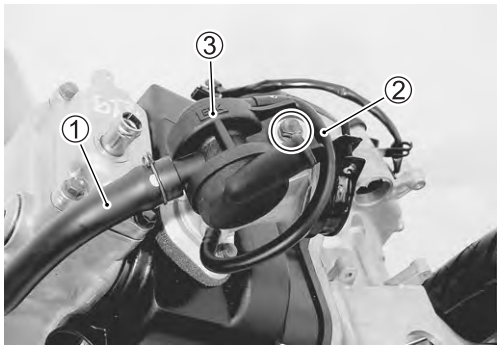
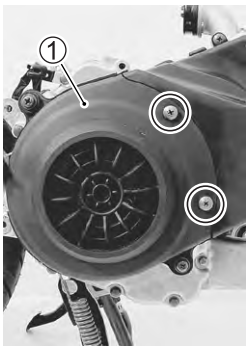
PAIR CUT VALVE

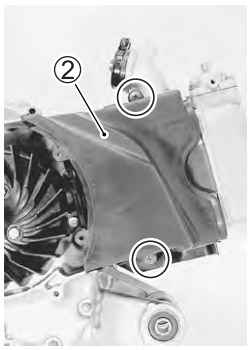
- Disconnect the PAIR hose ① and vacuum hose ②.
- Remove the PAIR cut valve ③.



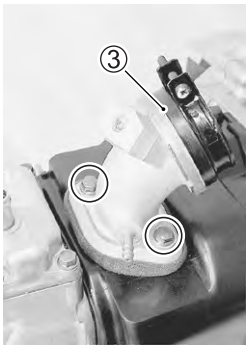
FAN COWLING COVER/CYLINDER COWLING/INTAKE PIPE

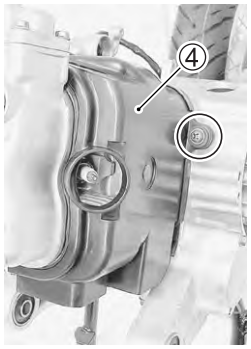
- Remove the fan cowling cover ① and cylinder cowling right cover ②.





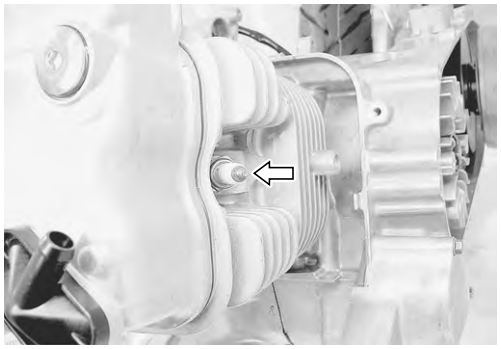
- Remove the intake pipe ③ and cylinder cowling left cover ④.





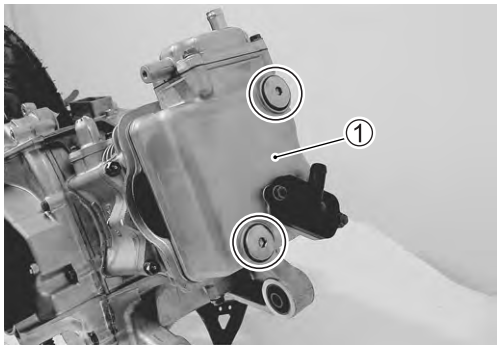
SPARK PLUG

- Remove the spark plug.



CYLINDER HEAD COVER

- Remove the cylinder head cover ① and gasket.



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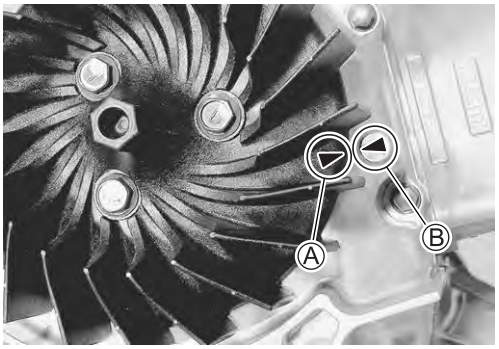
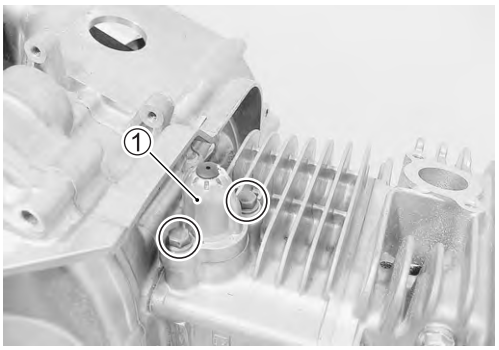
• Turn the crankshaft clockwise with a box wrench and align the "Top" mark Ⓐ on the cooling fan with the index mark Ⓑ on the magneto cover.

NOTE:
The piston must be at TDC on the compression stroke.



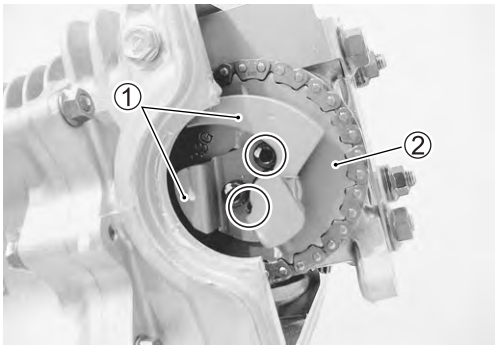
CAM CHAIN TENSION ADJUSTER

• Remove the cam chain tension adjuster ① and gasket.



CAMSHAFT SPROCKET

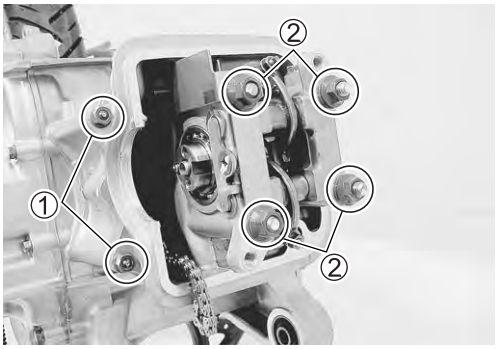
• Remove the decompression cam assembly ① and camshaft sprocket ②.



CYLINDER HEAD

• Remove the cylinder head side nuts ① and cylinder head nuts ②.
• Remove the cylinder head.

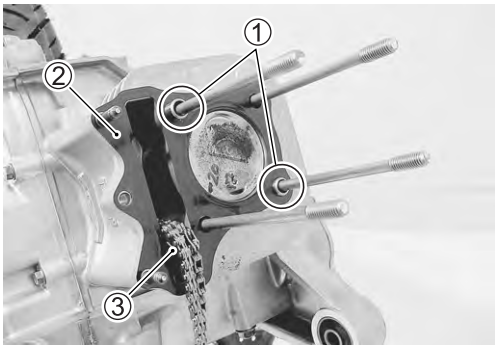
NOTE:
** When loosening the cylinder head nuts, loosen each nut little by little diagonally.*
** If the cylinder head does not come off, lightly tap on the finless portion of it with a plastic hammer.*



CYLINDER

• Remove the dowel pins ①, gasket ② and cam chain guide ③.
• Remove the cylinder.

NOTE:
If the cylinder does not come off, lightly tap on the finless portion of it with a plastic hammer.



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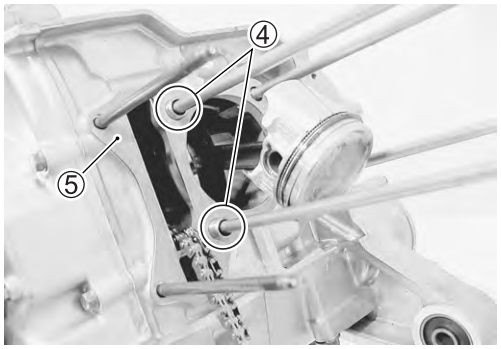
- Remove the dowel pins ④ and gasket ⑤.



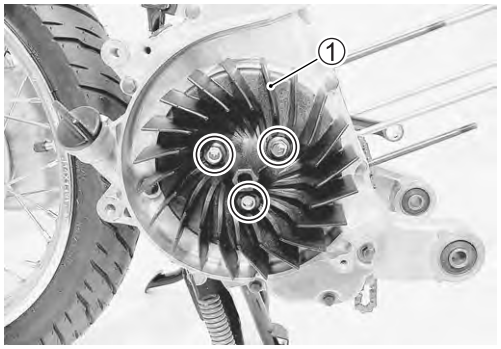
PISTON

- Remove the piston pin circlip.
- Remove the piston by driving out the piston pin.

NOTE:
Place a clean rag over the cylinder base so as not to drop the piston pin circlip into the crankcase.

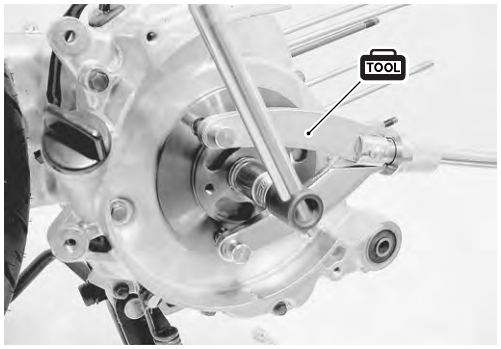
COOLING FAN

- Remove the cooling fan ①.



- Remove the cooling fan holder nut with the special tool.

TOOL 09930-40113: Rotor holder



- Remove the washer ② and cooling fan holder ③.

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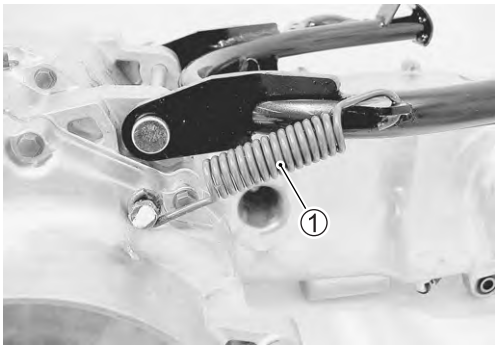
REAR WHEEL/REAR BRAKE

- Remove the rear wheel.

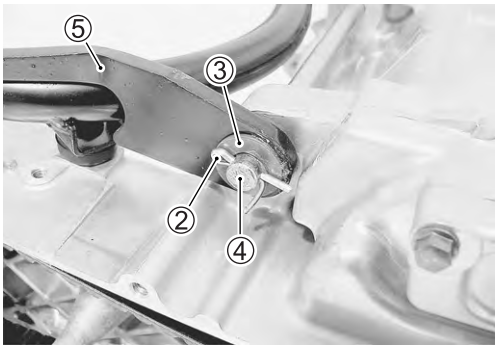
- Remove the brake shoes.

CENTER STAND

- Remove the center stand spring ①.

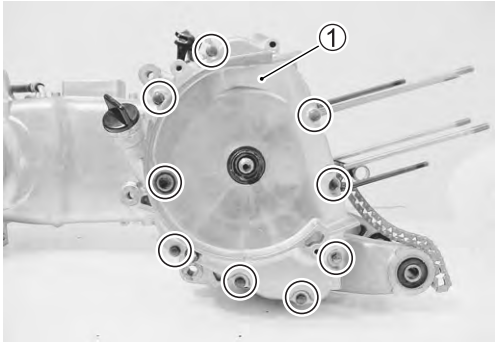


- Remove the cotter pin ②, washer ③, shaft ④ and center stand ⑤.



MAGNETO COVER

- Remove the magneto cover ①.



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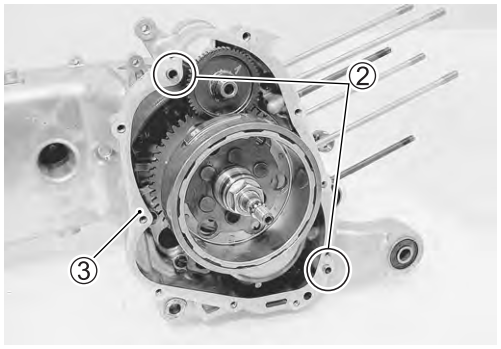
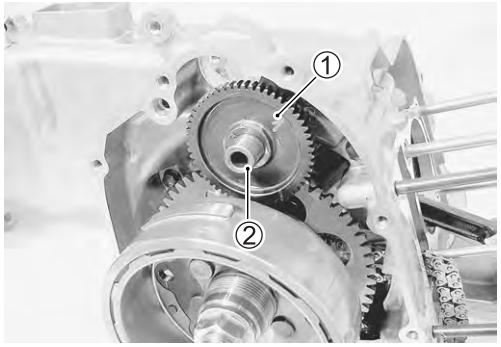
• Remove the dowel pins ② and gasket ③.



STARTER IDLE GEAR

• Remove the starter idle gear ① and shaft ②.

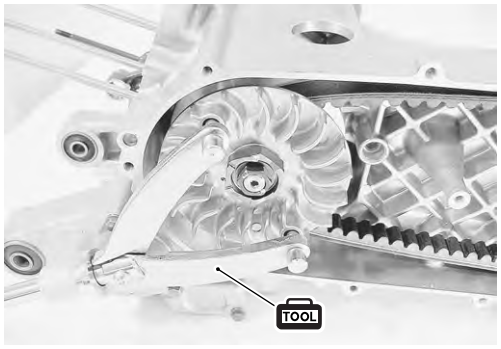


MAGNETOROTOR

• Hold the fixed drive face with the special tool.

TOOL 09930-40113: Rotor holder

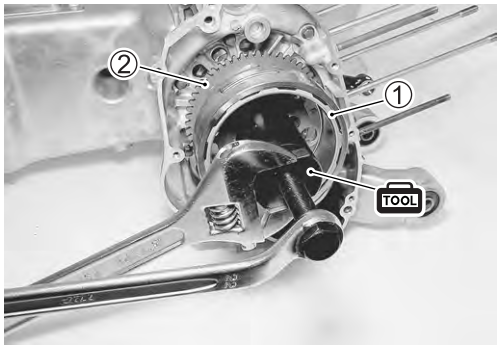
• Remove the magnetorotor nut.



• Remove the magnetorotor ① with the special tool.

TOOL 09930-34980: Rotor remover

• Remove the starter clutch ②.



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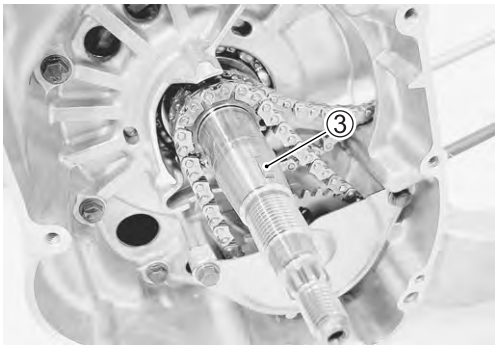
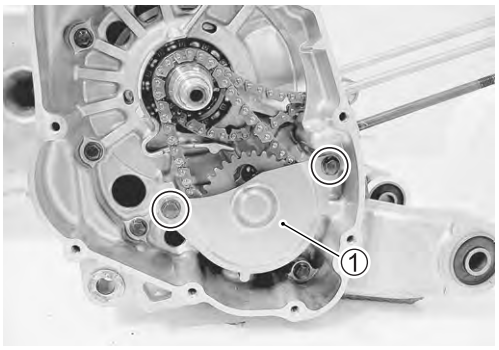
• Remove the key ③.



OIL PUMP

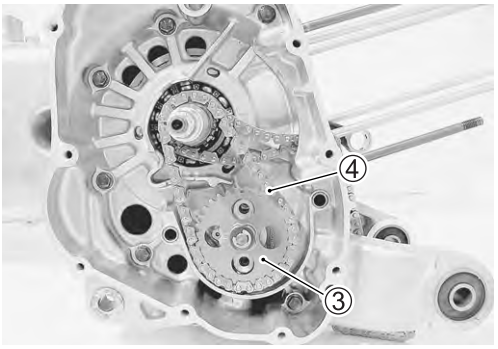
• Remove the oil pump cover ①.



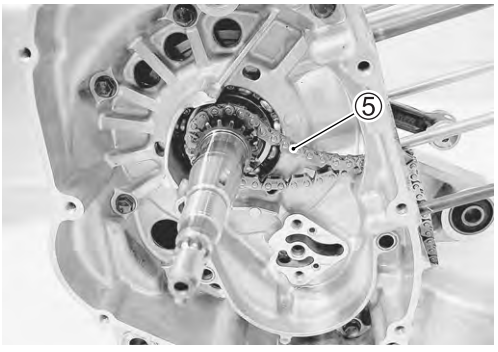
• Turn the oil pump sprocket and align the oil pump sprocket hole on the oil pump mounting screw ②.
• Remove the oil pump screw ②.

• Remove the oil pump assembly ③ along with the chain ④.

NOTE:
The oil pump assembly is a non-disassemblable type.



• Remove the cam chain ⑤.



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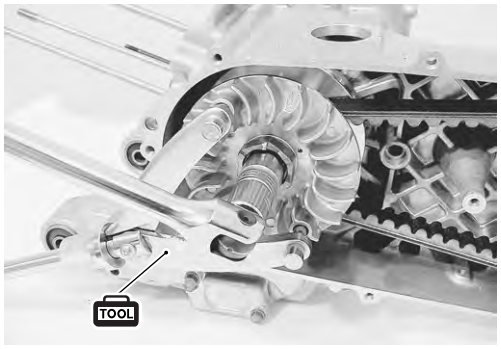
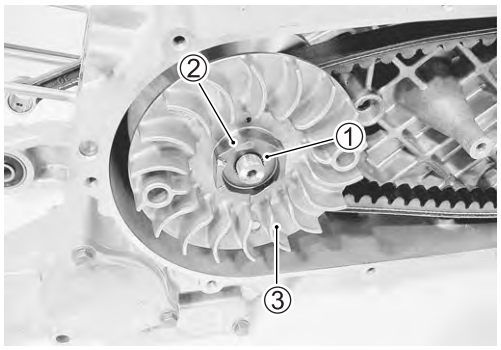
FIXED DRIVE FACE

- Remove the fixed drive face nut with the special tool.

TOOL 09930-40113: Rotor holder



- Remove the washer ①, kick starter ② and fixed drive face ③.

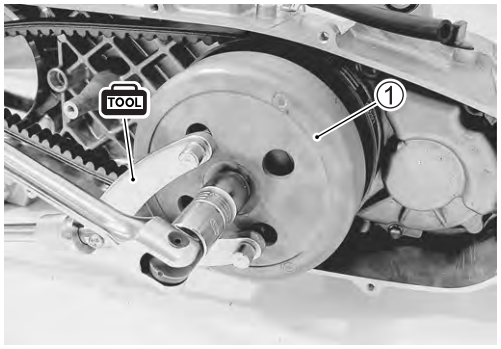


MOVABLE DRIVEN FACE/CLUTCH HOUSING

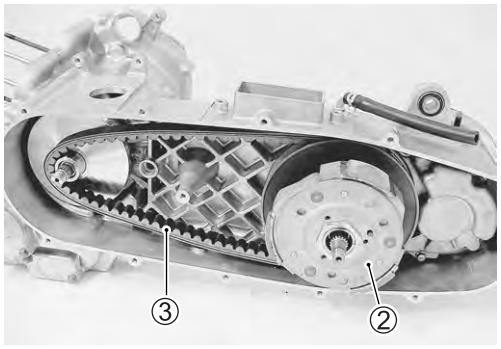
- Remove the clutch housing nut with the special tool.

TOOL 09930-40113: Rotor holder

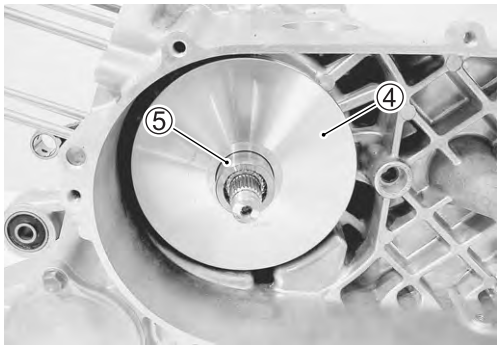
- Remove the clutch hosing ①.



- Remove the clutch shoe/movable driven face assembly ② along with the drive belt ③.



- Remove the movable drive face assembly ④ and spacer ⑤.



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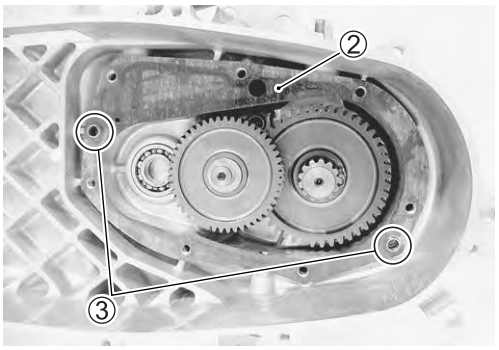
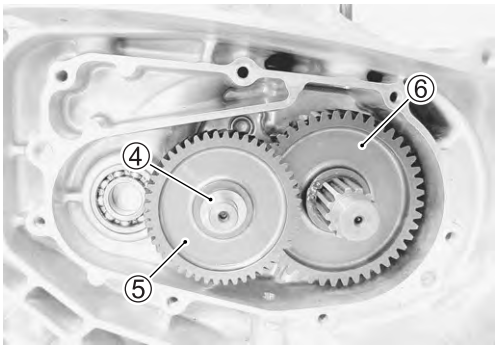
REDUCTION GEAR

- Drain the reduction gear oil. (☞2-11)
- Remove the reduction gear cover ①.

- Remove the gasket ② and dowel pins ③.

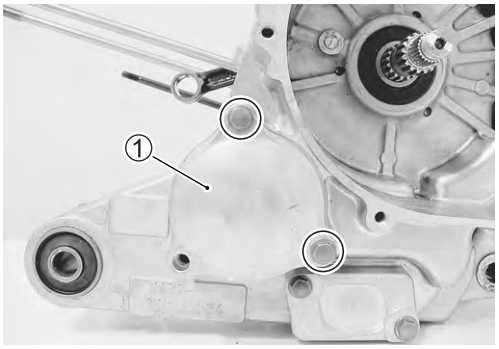


- Remove the washer ④, idle driven gear ⑤ and rear axle shaft ⑥.

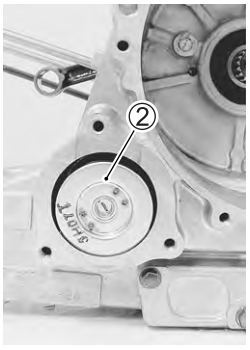


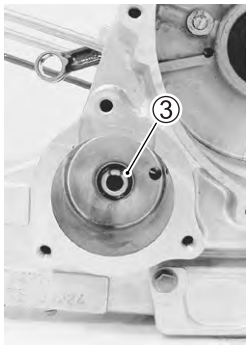
OIL FILTER

- Remove the oil filter cap ①.



- Remove the oil filter ② and O-ring ③.





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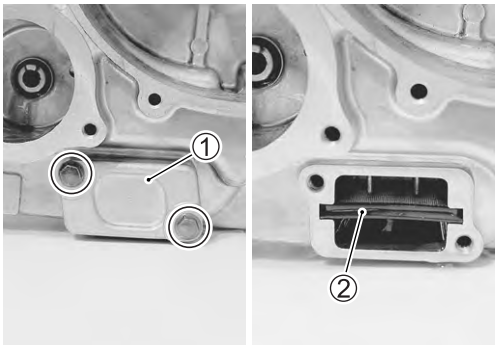
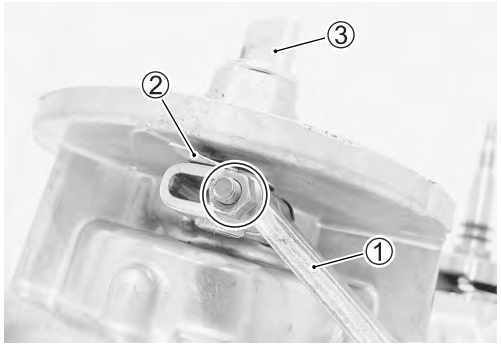
OIL SUMP FILTER

- Remove the oil sump filter cap ① and oil sump filter ②.



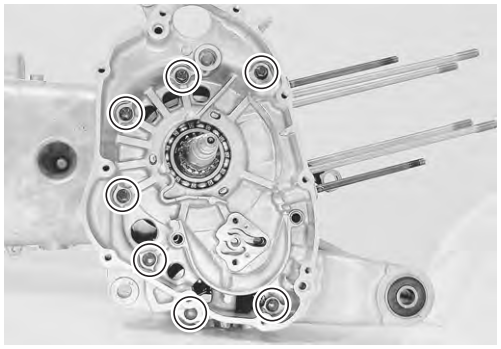
BRAKE CAM LEVER

- Remove the rear brake cam lever ①, brake lining wear indicator ② and brake cam ③.



CRANKCASE

- Remove the crankcase bolts.



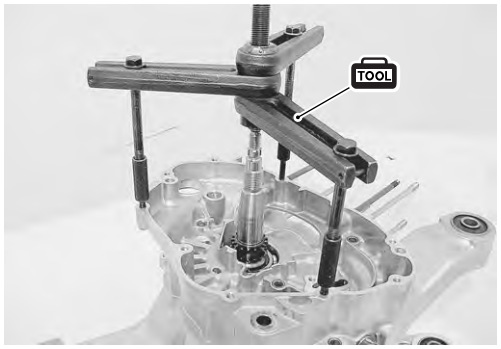
- Separator the crankcase into 2 parts, right and left with the crankcase separating tool.

TOOL 09920-13120: Crankcase separating tool

NOTE:

** Fit the crankcase separating tool, so that the tool arms are in parallel with the side of crankcase.*

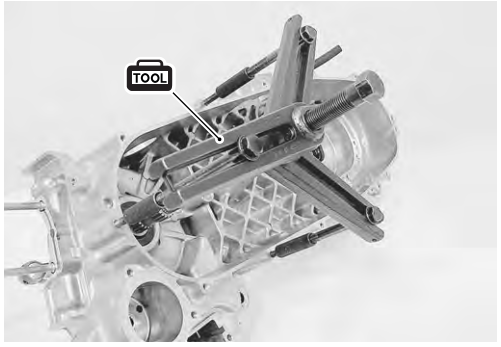
** The crankshaft component should remain in the left crankcase half.*



CRANKSHAFT

- Remove the crankshaft with the special tool.

TOOL 09920-13120: Crankcase separating tool



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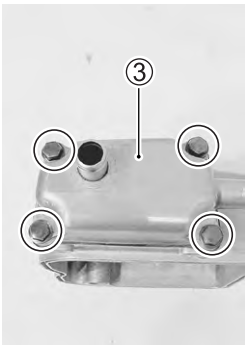
ENGINE COMPONENT INSPECTION AND SERVICE

CYLINDER HEAD COVER

DISASSEMBLY

- Remove the PAIR reed valve cover ① and PAIR reed valve ②.

- Remove the breather cover ③, oil separator ④ and gasket ⑤.



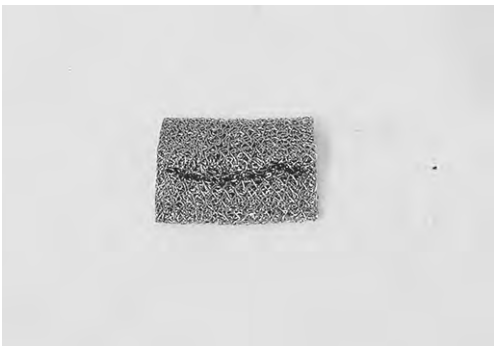
INSPECTION

REED VALVE

- Inspect the reed valve for the carbon deposit.
- If the carbon deposit is found in the reed valve, replace the PAIR reed valve with a new one.

OIL SEPARATOR

- Check the oil separator for any damage or clogs.
- If they are clogged, clean the oil separator with a compressed air or replace.



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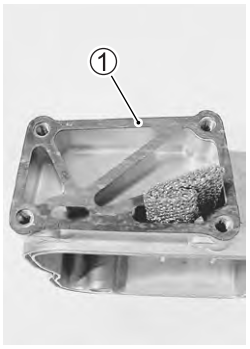
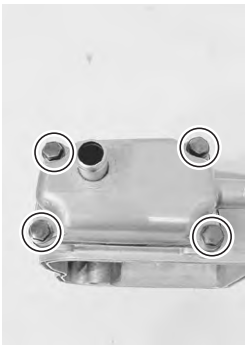
REASSEMBLY

- Reassembly the cylinder head cover in the reverse order of disassembly. Pay attention to the following points:
- Install the breather cover gasket ①.





CAUTION

Replace the removed breather gasket with a new one.

- Tighten the breather cover bolts to the specified torque.

Breater cover bolt: 10 N·m (1.0 kgf-m)

- Apply THREAD LOCK to the PAIR reed valve cover bolts and tighten them.

1342 99000-32050: THREAD LOCK "1342"

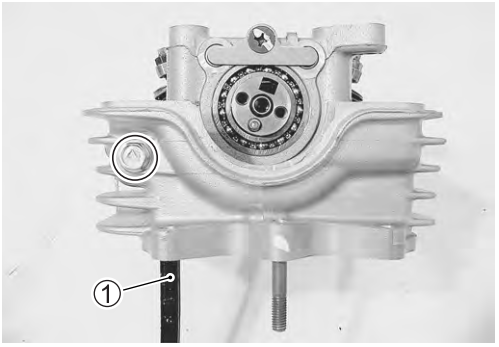
CYLINDER HEAD

CAUTION

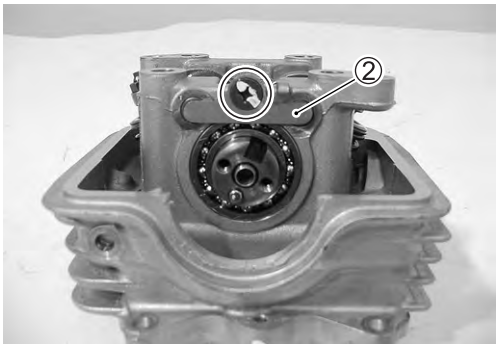
Identify the position of each removed part. Organize the parts in their respective groups (i.e., intake or exhaust) so that they can be installed in their original locations.

DISASSEMBLY

- Remove the cam chain tensioner ①.



- Remove the camshaft retainer ②.



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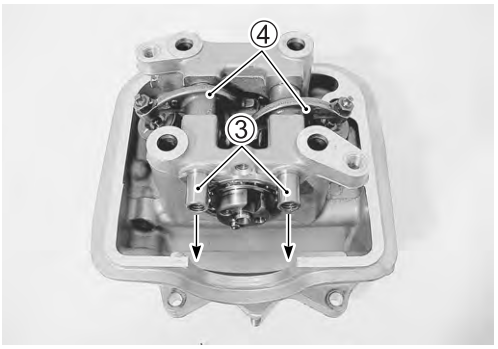
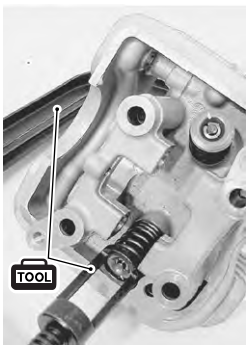
- Pull out the intake and exhaust rocker arm shafts ③ by using an 8-mm thread bolt.
- Remove the intake and exhaust rocker arms ④.

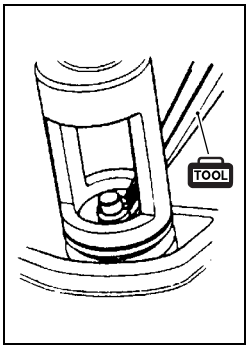


- Remove the camshaft ⑤.

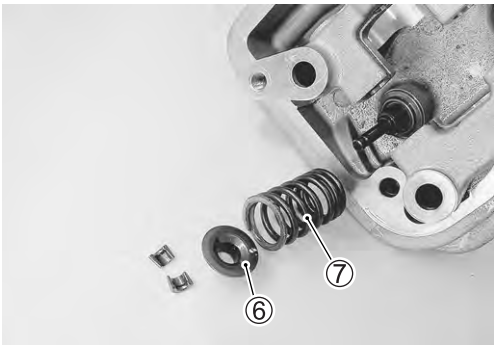
- Compress the valve spring with the valve spring compressor.
- Remove the valve cotters from the valve stem.

TOOL **09916-14510: Valve spring compressor**
09916-14521: Attachment
09916-84511: Tweezers

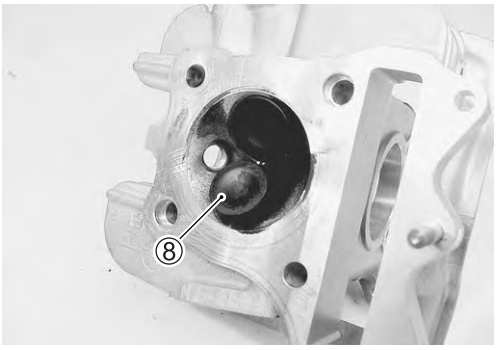




- Remove the valve spring retainer ⑥ and valve spring ⑦.



- Remove the valve ⑧ from the combustion chamber side.



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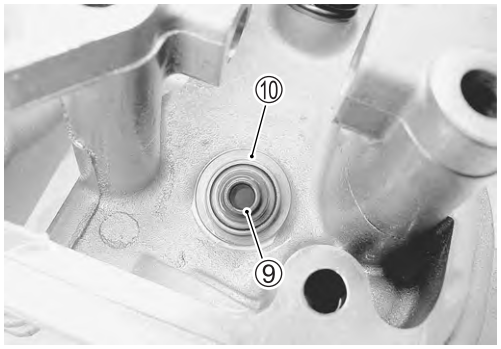
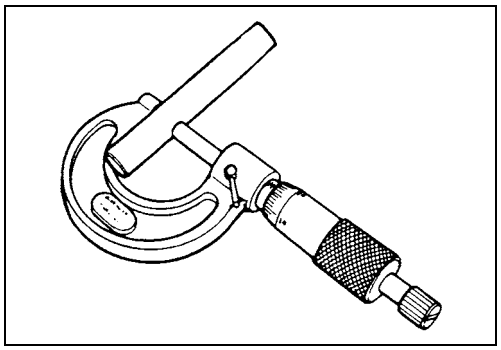
• Remove the valve stem seal ⑨ and valve spring seat ⑩.



ROCKER ARM SHAFT O.D.
Measure the diameter of rocker arm shaft.

DATA Rocker arm shaft O.D. (IN. & EX.)
Standard: 9.981 – 9.990 mm

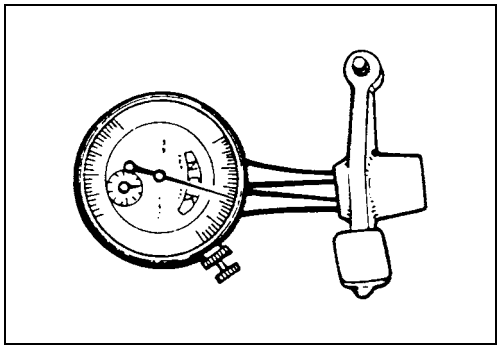
TOOL 09900-20205: Micrometer (0 – 25 mm)



ROCKER ARM I.D.
When checking the valve rocker arm, the inside diameter of the valve rocker arm and wear of the camshaft contacting surface should be checked.

DATA Rocker arm I.D. (IN. & EX.)
Standard: 10.003 – 10.018 mm

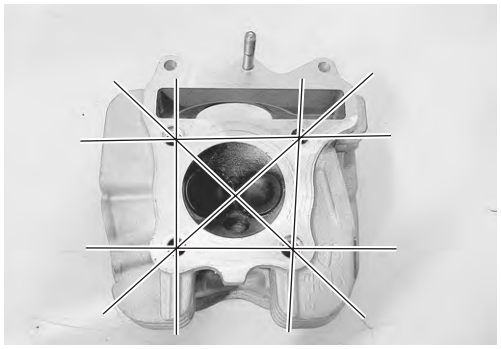
TOOL 09900-20605: Dial calipers



CYLINDER HEAD DISTORTION
Decarbon the combustion chamber.
Check the gasketed surfaced of the cylinder head for distortion with a straightedge and thickness gauge, taking a clearance reading at several places as indicated. If the largest reading at any position of the straightedge exceeds the limit, replace the cylinder head.

DATA Cylinder head distortion
Service Limit: 0.05 mm

TOOL 09900-20803: Thickness gauge



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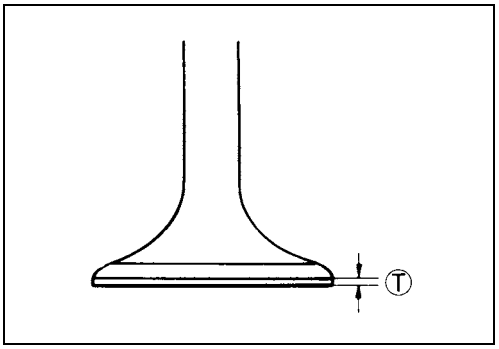
VALVE FACE WEAR

The thickness of the valve face decreases as the face wears. Visually inspect each valve face for wear and replace any valve with an abnormally worn face. Measure the valve face thickness Ⓣ, if it is out of specification, replace the valve with a new one.

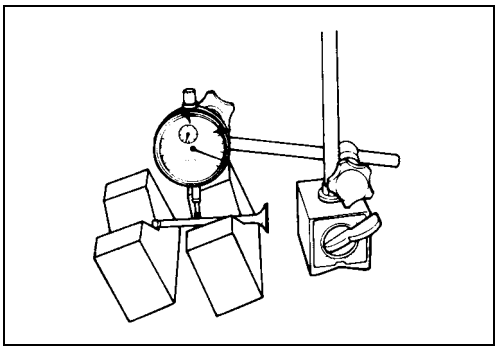


DATA Valve head thickness (IN. & EX.)
Service Limit T: 0.5 mm

TOOL 09900-20101: Venier calipers

VALVE STEM RUNOUT

Support the valve using V-blocks, as shown, and measure its runout with the dial gauge. If the runout exceeds the limit, replace the valve.

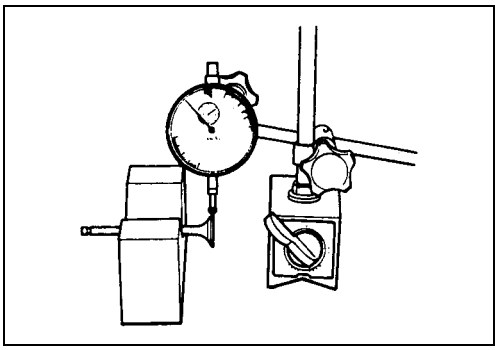


DATA Valve stem runout (IN. & EX.)
Service Limit: 0.05 mm

TOOL 09900-20701: Magnetic stand
09900-20607: Dial gauge (1/100 mm)
09900-21304: V-block (100 mm)

VALVE HEAD RADIAL RUNOUT

Place the dial gauge at right angles to the valve head, and measure the valve head radial runout.
If it measures more than limit, replace the valve.

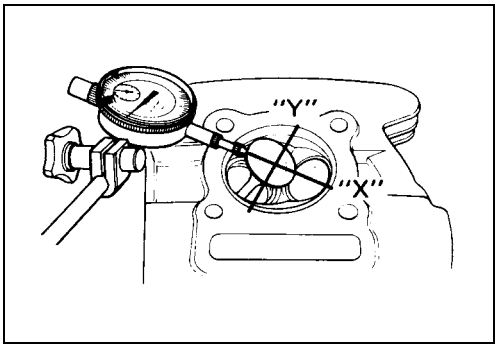


DATA Valve head radial runout (IN. & EX.)
Service Limit: 0.03 mm

TOOL 09900-20607: Dial gauge (1/100 mm)
09900-20701: Magnetic stand
09900-21304: V-block (100 mm)

VALVE STEM DEFLECTION

Lift the valve about 10 mm from the valve seat. Measure the valve stem deflection in two directions, “X” and “Y”, perpendicular to each other, by positioning the dial gauge as shown. If the deflection measured exceeds the limit, then determine whether the valve or the guide should be replaced with a new one.



DATA Valve stem deflection
Service Limit (IN. & EX.): 0.35 mm

TOOL 09900-20607: Dial gauge (1/100 mm)
09900-20701: Magnetic stand

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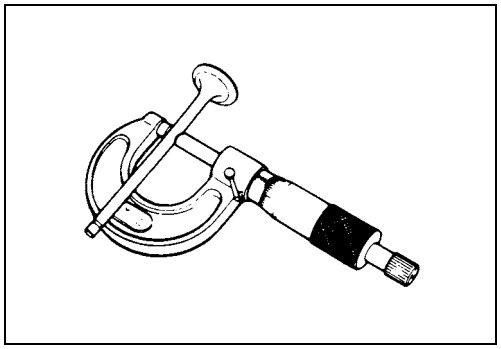
VALVE STEM WEAR

If the valve stem is worn down to the limit, when measured with a micrometer, and the clearance is found to be in excess of the limit indicated previously, replace the valve, if the stem is within the limit, then replace the guide. After replacing valve or guide, be sure to re-check the clearance.



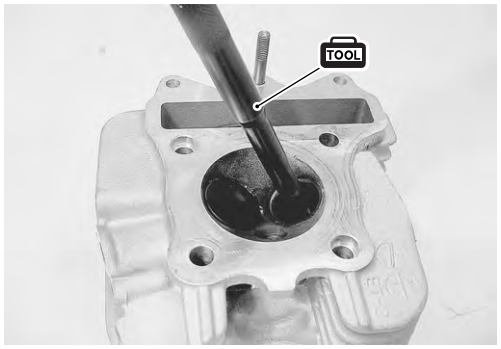
DATA Valve stem O.D.
Standard (IN.) : 4.975 – 4.990 mm
(EX.): 4.955 – 4.970 mm

TOOL 09900-20205: Micrometer (0 – 25 mm)

VALVE GUIDE SERVICE

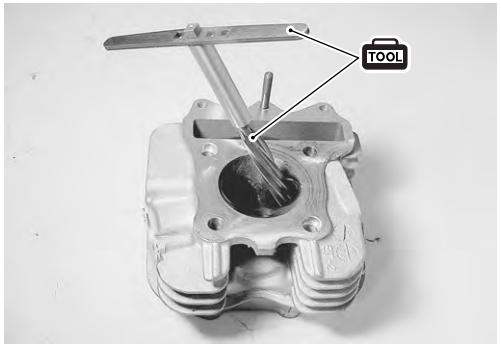
- Remove the valve guide with the valve guide remover.

TOOL 09916-44310: Valve guide remover



- Re-finish the valve guide holes in cylinder head with the handle and reamer.

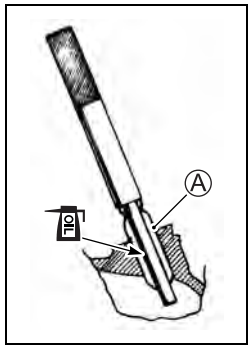
TOOL 09916-34542: Handle
09916-34580: Valve guide reamer (10.8 mm)

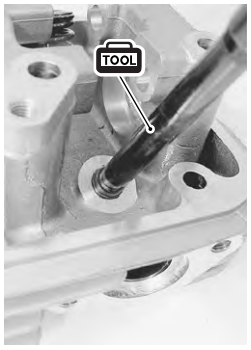


- Fit a ring to each valve guide.
- Lubricate each valve guide with oil, and drive the guide into the guide hole with the special tool.

TOOL 09916-44310: Valve guide installer

NOTE:
Install the valve guide until the ring Ⓐ contacts with the cylinder head.



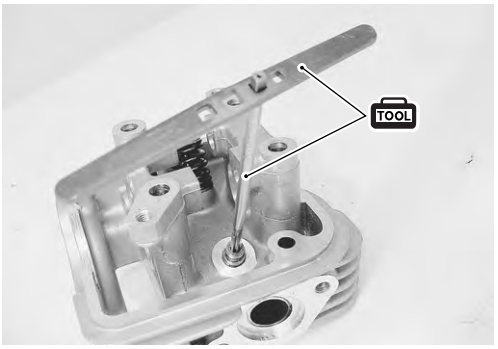


CAUTION

Be sure to use new ring and valve guide.

• After fitting the valve guides, re-finish their guiding bores with the handle and reamer. Be sure to clean and oil the guides after reaming.

TOOL **09916-34542: Handle**
09916-34570: Valve guide reamer (5.0 mm)



VALVE SEAT WIDTH INSPECTION

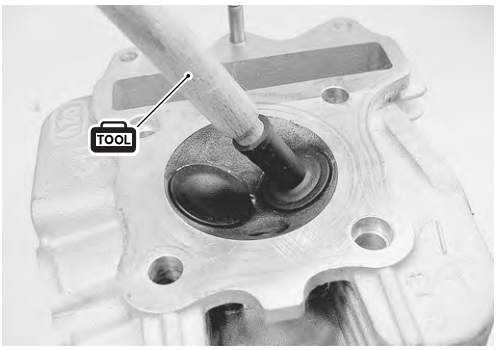
Visually check for valve seat width on each valve face.

If the valve face has worn abnormally, replace the valve.

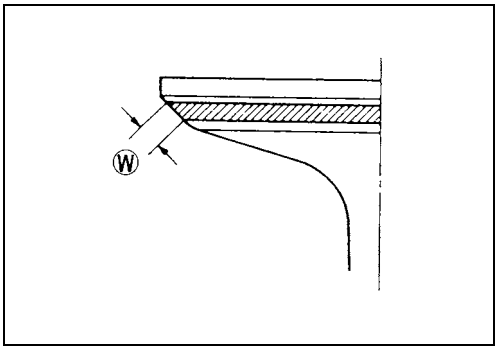
Coat the valve seat with Prussian Blue and set the valve in place.

Rotate the valve with light pressure. Check that the transferred blue on the valve face is uniform all around and in center of the valve face.

If the seat width Ⓦ measured exceeds the standard value, or seat width is not uniform reface the seat using the seat cutter.



DATA **Valve seat width Ⓦ**
Standard (IN.) : 0.90 – 1.10 mm
(EX.): 0.92 – 1.12 mm
Service Limit: Reface if measurement does not agree with standard valve.



TOOL **09916-10911: Valve lapper set**

• If either requirement is not met, correct the seat by servicing it as follows.

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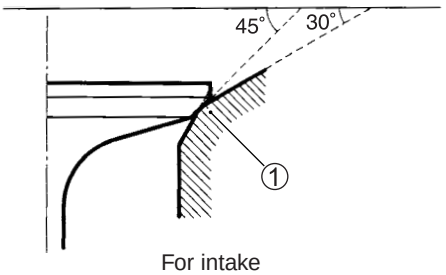
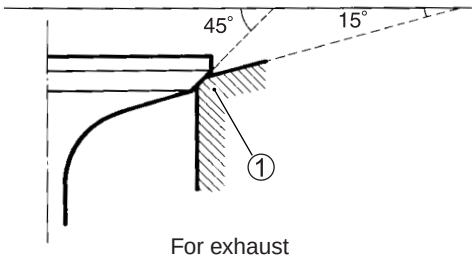
VALVE SEAT SERVICE

The valve seats ① for both the intake and exhaust valves are machined to four different angles. The seat contact surface is cut at 45°.

	INTAKE SIDE	EXHAUST SIDE
45°	N-122	N-122
15°		N-121
30°	N-126	



For intake



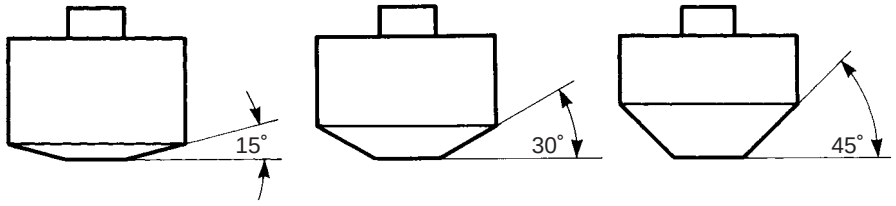
For exhaust

TOOL **09916-21111: Valve seat cutter set**
09916-20610: Valve seat cutter (N-121)
09916-20620: Valve seat cutter (N-122)
09916-20630: Valve seat cutter (N-126)
09916-24311: Solid pilot (N-100-5.0)

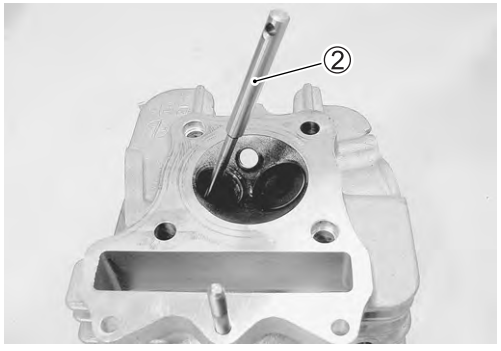
NOTE:
Use the solid pilot (N-100-5.0) along with the valve seat cutter (N-121, -122 and -126).

CAUTION

The valve seat contact area must be inspected after each cut.



- When installing the solid pilot ②, rotate it slightly.



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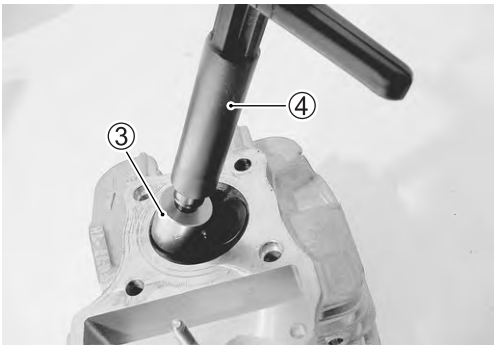
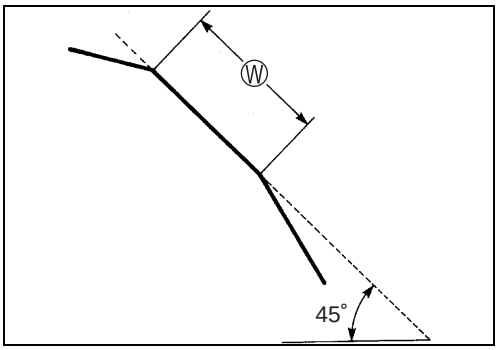
- Seat the pilot snugly. Install the 45° cutter ③, attachment and T-handle ④.



INITIAL SEAT CUT

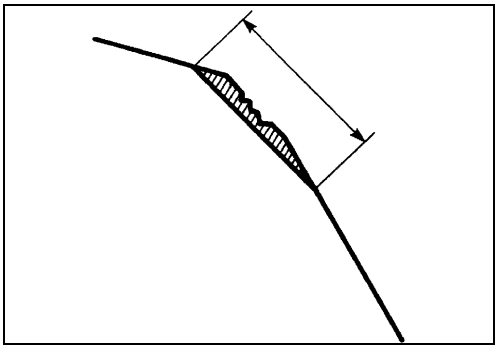
- Using the 45° cutter, descale and clean up the seat. Rotate the cutter one or two turns.
- Measure the valve seat width Ⓦ after every cut.



- If the valve seat is pitted or burned, use the 45° cutter to condition the seat some more.

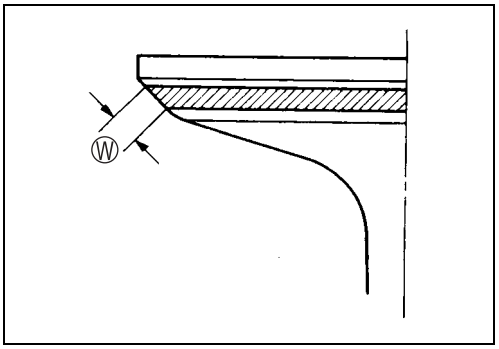
NOTE:

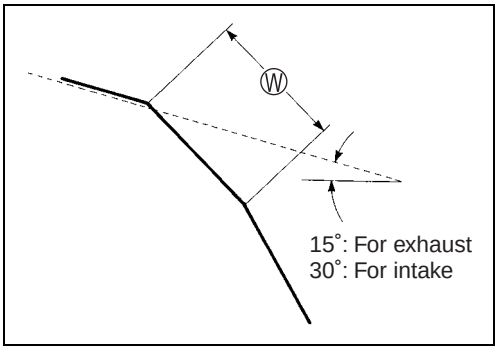
Cut only the minimum amount necessary from the seat to prevent the possibility of the valve stem becoming too close to the rocker arm for correct valve contact angle.



TOP NARROWING CUT

- If the contact area Ⓦ is too high on the valve, or if it is too wide, use the 15° (for exhaust side) and the 30° (for the intake side) to lower and narrow the contact area.





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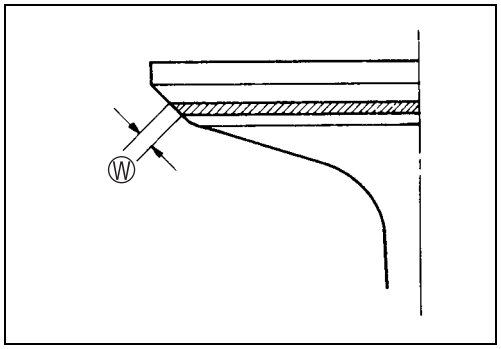
FINAL SEAT CUT

- If the contact area Ⓦ is too low or too narrow, use the 45° cutter to raise and widen the contact area.

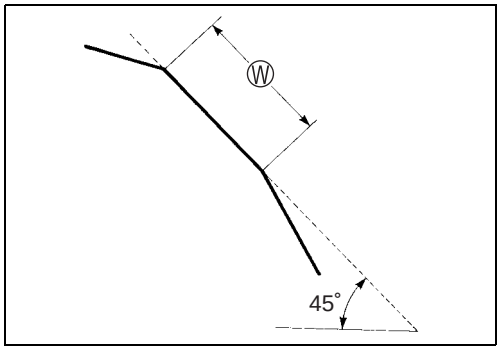


NOTE:
After cutting the 15° and 30° angles, it is possible that the valve seat (45°) is too narrow. If so, re-cut the valve seat to the correct width.

- After the desired seat position and width is achieved, use the 45° cutter very lightly to clean up any burrs caused by the previous cutting operations.

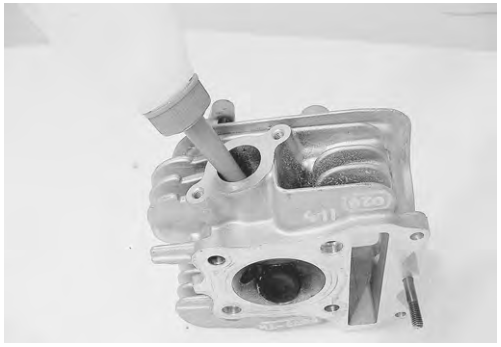
CAUTION

Do not use lapping compound after the final cut is made. The finished valve seat should have a velvety smooth finish but not a highly polished or shiny finish. This will provide a soft surface for the final seating of the valve which will occur during the first few seconds of engine operation.



NOTE:
After servicing the valve seats, be sure to check the valve clearance after the cylinder head has been reinstalled. (☞2-6)

- Clean and assemble the head and valve components. Fill the intake and exhaust ports with gasoline to check for leaks. If any leaks occur, inspect the valve seat and face for burrs or other things that could prevent the valve from sealing.



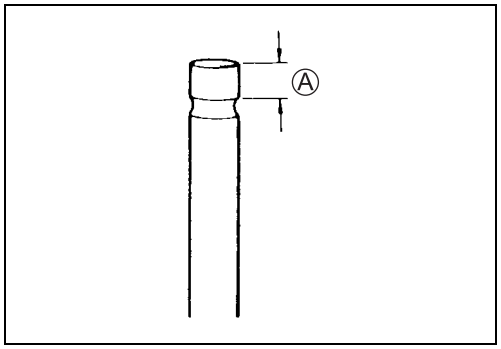
⚠ WARNING

Always use extreme caution when handling gasoline.

VALVE STEM END CONDITION

Inspect the valve stem end face for pitting and wear. If pitting or wear is present, resurface the valve stem end. Make sure that the length Ⓐ is not less than 2.2 mm. If this length becomes less than 2.2 mm, replace the valve.

DATA Valve stem end length
Service Limit: 2.2 mm



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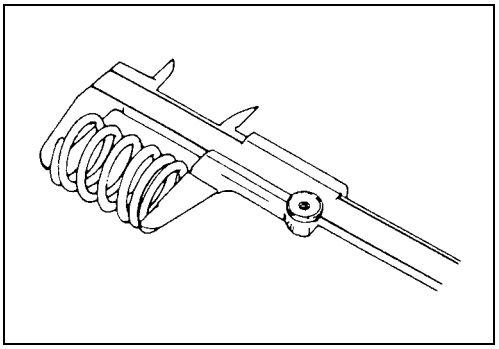
VALVE SPRING INSPECTION

The force of the coil spring keeps the valve seat tight. A weakened spring results in reduced engine power output and often accounts for the chattering noise coming from the valve mechanism.

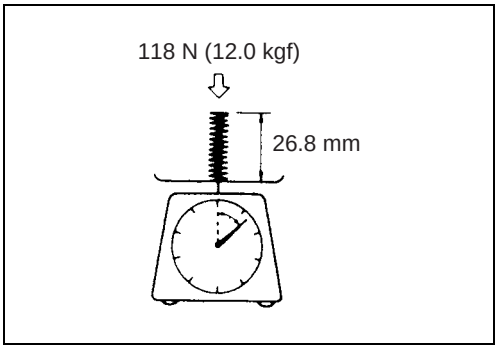
Check the valve springs for proper strength by measuring their free length and also by the force required to compress them. If the spring length is less than the service limit or if the force required to compress the spring does not fall within the specified range, replace both the inner and outer springs as a set.



DATA Valve spring free length (IN. & EX.)
Service Limit: 32.9 mm

TOOL 09900-20102: Vernier calipers

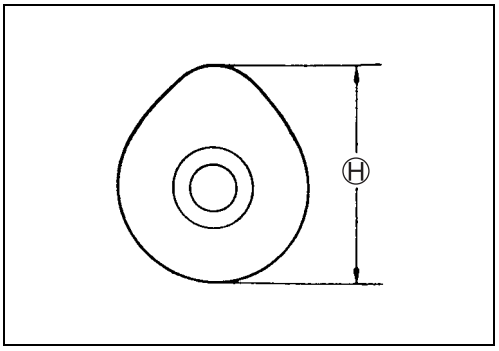
DATA Valve spring tension (IN. & EX.)
Standard: 118 N (12.0 kgf)/26.8mm



CAMSHAFT CAM WEAR

Check for abnormal surface damage or wear on the cam face. Measure the cam height Ⓗ with a micrometer.

Replace the camshaft if found worn down to the service limit.



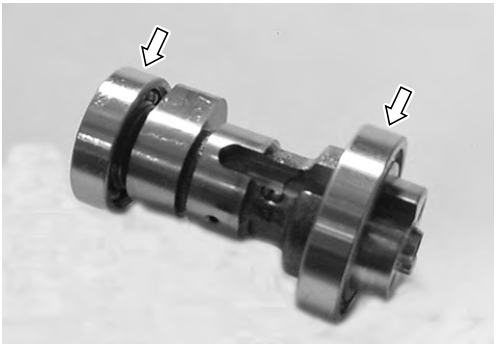
DATA Cam height Ⓗ
Service Limit (IN.) : 27.62 mm
(EX.) : 27.47 mm

TOOL 09900-20202: Micrometer (25 – 50 mm)

CAMSHAFT BEARING

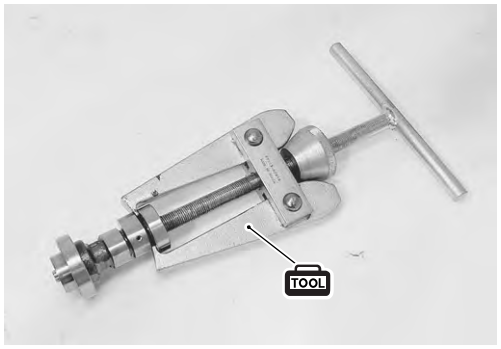
Rotate the camshaft bearing outer race by finger to inspect for abnormal play, noise and smooth rotation.

Replace the bearing in the following procedure if there is anything unusual.



- Remove the bearings and cam sprocket flange with a bearing puller.

TOOL 09913-60910: Bearing & gear puller



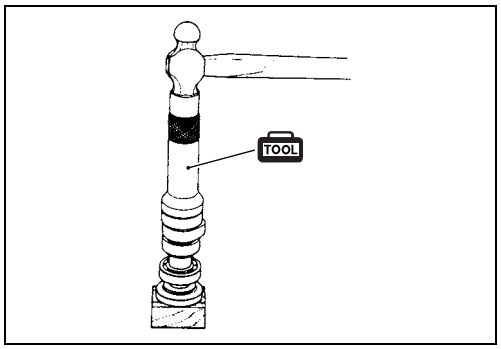
NOTE:
Avoid removing the cam sprocket flange and bearing from the camshaft unless it is really necessary to do so, for example, removing the damaged bearing.

CAUTION

The removed bearing should be replaced with a new one.

- Press in the bearings to the camshaft with a bearing installer.

TOOL 09951-16080: Bearing installer (ϕ49 mm)
09913-70210: Bearing installer (ϕ32 mm)



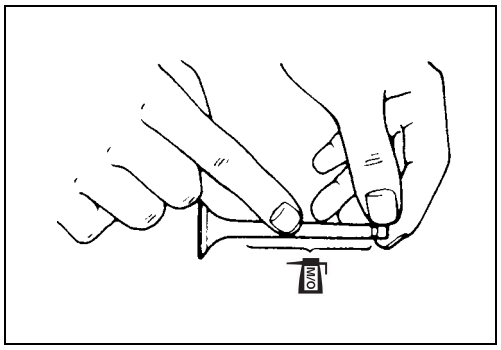
CAM CHAIN TENSIONER

Inspect the cam chain tensioner for damage. If any damage are found, replace the cam chain tensioner with a new one.

REASSEMBLY

- Insert the valves, with their stems coated with molybdenum oil solution all around and along the full stem length without any break.
  Similarly oil the lip of the stem seal.

M/O MOLYBDNUM OIL SOLUTION



CAUTION

When inserting each valve, take care not to damage the lip of the stem seal.

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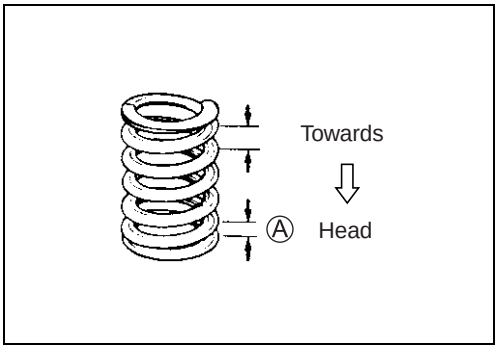
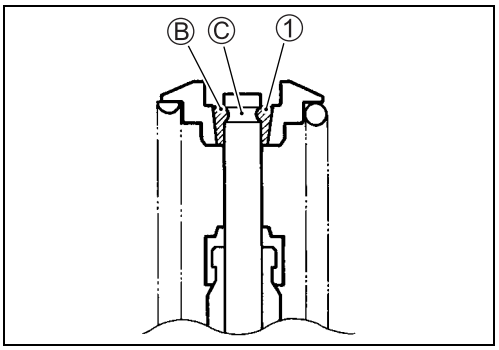
• Install the valve spring, making sure that the close-pitch end Ⓐ of each spring goes in first to rest on the head. The coil pitch of spring vary: the pitch decreases from top to bottom, as shown in the illustration.



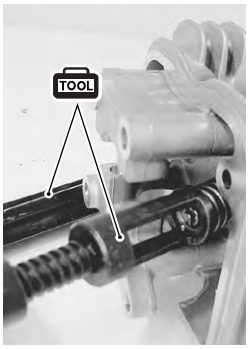
• Put on the valve spring retainer, and using the valve lifter, press down the spring, fit the cotter halves to the stem end, and release the lifter to allow the cotter ① to wedge in between retainer and stem. Be sure that the rounded lip Ⓑ of the cotter fits snugly into the groove Ⓒ in the stem end.

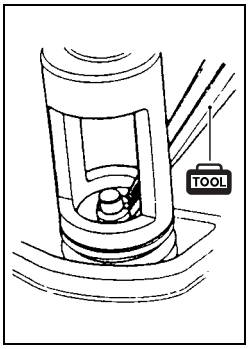


09916-14510: Valve lifter
09916-14521: Valve lifter attachment
09916-84511: Tweezers

CAUTION

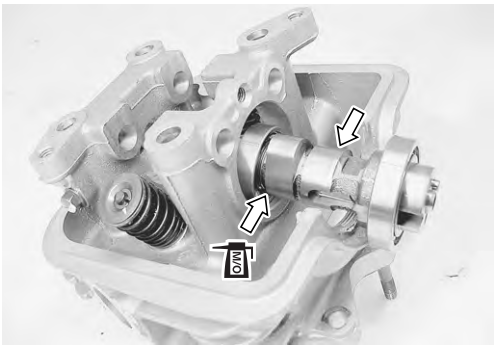
Be sure to restore each spring and valve to their original positions.



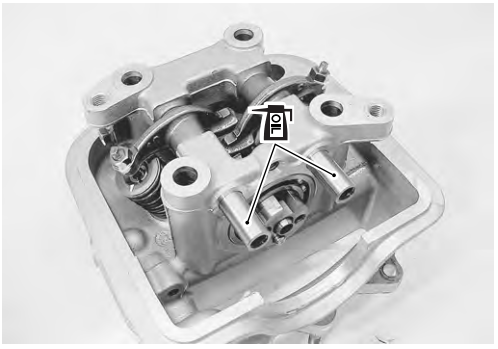


NOTE:
Just before installing the camshaft into the cylinder head, apply molybdenum oil solution to the cam faces.

MOLYBDNUM OIL SOLUTION



• Apply engine oil to the rocker arm shafts, rocker arms and install them.



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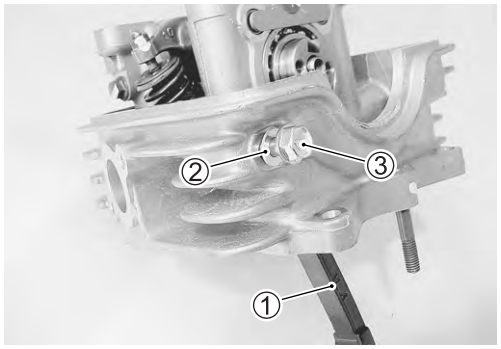
CAM CHAIN TENSIONER

- Install the cam chain tensioner ① and washer ②.
- Tighten the cam chain tensioner bolt ③ to the specified torque.

Cam chain tensioner bolt: 10 N·m (1.0 kgf-m)

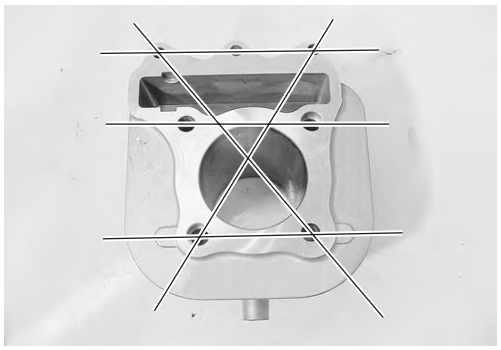


CYLINDER

CYLINDER DISTORTION

Check the gasketed surface of the cylinder for distortion with a straightedge and thickness gauge, taking a clearance reading at several places as indicated. If the largest reading at any position of the straightedge exceeds the limit, replace the cylinder.

DATA Cylinder distortion
Service Limit: 0.05 mm
TOOL 09900-20803: Thickness gauge

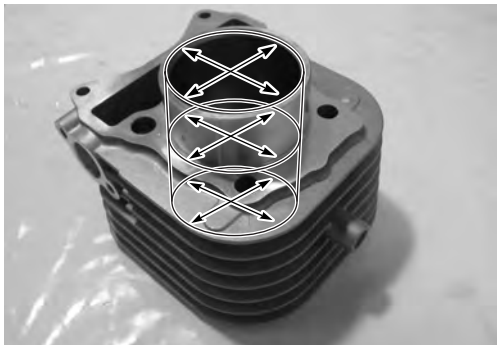


CYLINDER BORE

- Inspect the cylinder wall for any scratches, nicks or other damage.
- Measure the cylinder bore diameter at six places.

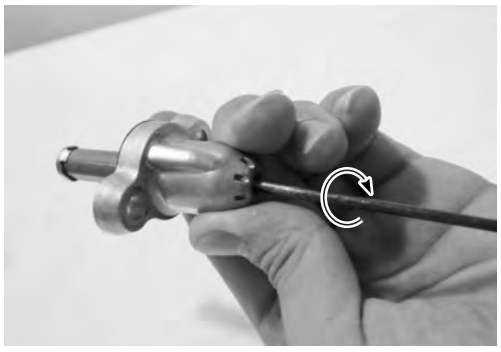
DATA Cylinder bore
Service Limit: 53.610 mm

TOOL 09900-20530: Cylinder bore gauge set



CAM CHAIN TENSION ADJUSTER

Make sure the push rod movement. If the push rod is stuck or spring mechanism failed, replace the cam chain tension adjuster assembly with a new one.



CAM CHAIN GUIDE

Inspect the cam chain guide for damage. If any damage are found, replace the cam chain guide with a new one.

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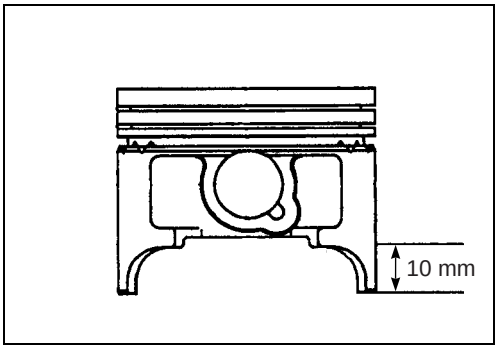
PISTON

PISTON DIAMETER

Using a micrometer, measure the piston outside diameter at the place 10 mm from the skirt end as shown. If the measurement is less than the limit, replace the piston.



DATA Piston diameter
Service Limit: 53.380 mm

TOOL 09900-20203: Micrometer (50 – 75 mm)

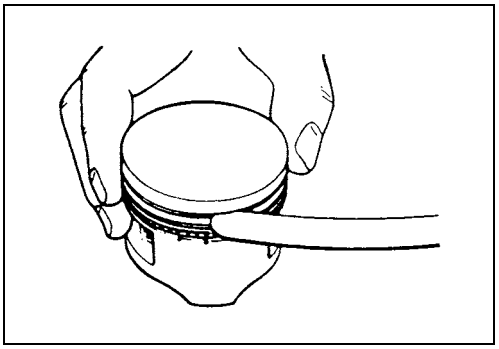
PISTON-TO-CYLINDER CLEARANCE

- Subtract the piston diameter from the cylinder bore diameter. (☞3-33)
- If the piston-to-cylinder clearance exceeds the service limit, replace the crankcase set or the piston, or both.

DATA Piston to cylinder clearance
Service Limit: 0.120 mm

PISTON RING-TO-GROOVE CLEARANCE

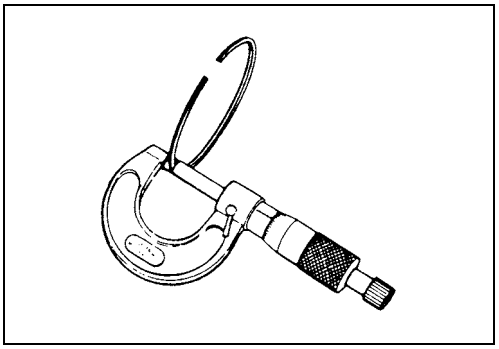
- Measure the side clearances of the 1st and 2nd piston rings using the thickness gauge.
- If any of the clearances exceeds the limit, replace both the piston and piston rings.



DATA Piston ring-to-groove clearance
Service Limit (1st) : 0.180 mm
(2nd): 0.150 mm

DATA Piston ring groove width
Standard (1st) : 1.01 – 1.03 mm
(2nd): 1.01 – 1.03 mm
(Oil) : 2.01 – 2.03 mm

DATA Piston ring thickness
Standard (1st & 2nd): 0.97 – 0.99 mm



TOOL 09900-20205: Micrometer (0 – 25 mm)
09900-20803: Thickness gauge

NOTE:
Using a soft-metal scraper, decarbon the crown of the piston. Clean the ring grooves similarly.

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PISTON RING END GAP

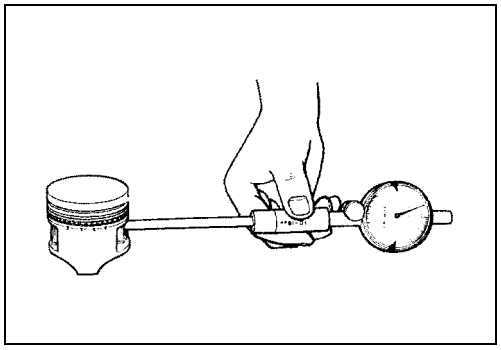
- Measure the piston ring end gap using the vernier calipers.
- Next, fit the piston ring squarely into the cylinder and measure the piston ring end gap using the thickness gauge.
- If any of the measurements exceeds the service limit, replace the piston ring with a new one.

TOOL 09900-20102: Vernier calipers

DATA Piston ring end gap
Service Limit (1st) : 0.50 mm
(2nd): 0.50 mm

TOOL 09900-20803: Thickness gauge

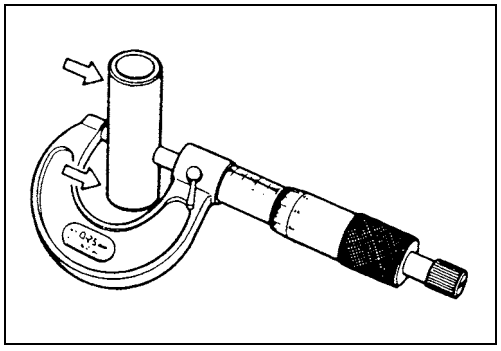
PISTON PIN AND PIN BORE



- Measure the piston pin bore diameter using the small bore gauge.
- If the measurement is out of specification, replace the piston.

DATA Piston pin bore I.D.
Service Limit: 14.038 mm

TOOL 09900-20602: Dial gauge (1/1000 mm)
09900-22401: Small bore gauge (10 – 18 mm)



- Measure the piston pin outside diameter at three positions using the micrometer.
- If any of the measurements is out of specification, replace the piston pin.

DATA Piston pin O.D.
Service Limit: 13.980 mm

TOOL 09900-20205: Micrometer (0 – 25 mm)

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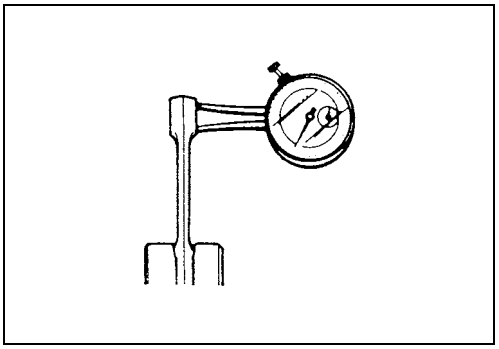
CRANKSHAFT



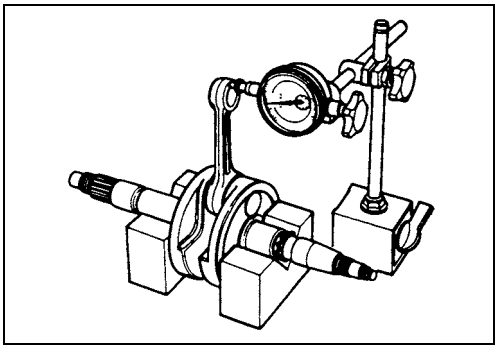
CONROD SMALL END I.D.

Using a caliper gauge, measure the conrod small end inside diameter.

DATA Conrod small end I.D.
Service Limit: 14.064 mm

TOOL 09900-20605: Dial calipers

If the conrod small end bore inside diameter exceeds the limit, replace the conrod.



CONROD DEFLECTION AND CONROD BIG END SIDE CLEARANCE

Wear on the big end of the conrod can be estimated by checking the movement of the small end of the rod. This method can also check the extent of wear on the parts of the conrod's big end.

DATA Conrod deflection
Service Limit: 3.0 mm

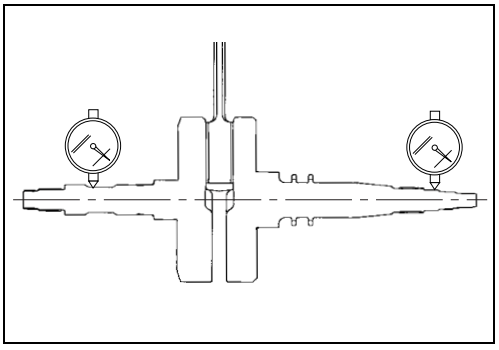
TOOL 09900-20701: Magnetic stand
09900-20607: Dial gauge (1/100 mm)
09900-21304: V-block

Push the big end of the conrod to one side and measure the side clearance using a thickness gauge.

DATA Conrod big end side clearance
Service Limit: 1.0 mm

TOOL 09900-20803: Thickness gauge

If the clearance exceeds the service limit, replace crankshaft assembly or bring the deflection and side clearance into specification by replacing the worn parts. (e.g., conrod, big end bearing and crank pin)



CRANKSHAFT RUNOUT

- Measure the crankshaft runout with V-blocks and dial gauge.

DATA Crankshaft runout
Service Limit: 0.08 mm

TOOL 09900-20607: Dial gauge (1/100 mm)
09900-20701: Magnetic stand
09900-21304: V-block

NOTE:

* *Place the crankshaft onto the V-blocks so that it becomes horizontally.*
* *Measure the runout from the tips of the crankshaft.*

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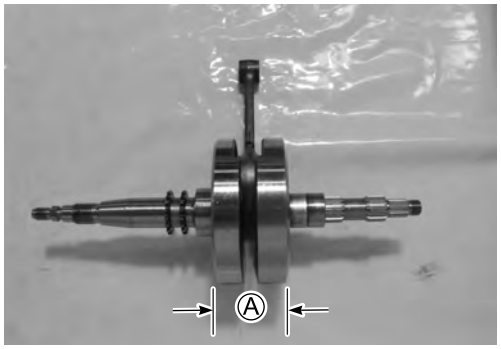
REASSEMBLY

- When rebuilding the crankshaft, the width between the weds Ⓐ should be within the standard range.

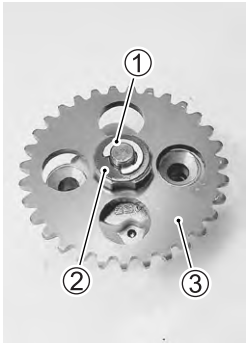
DATA **Crank wed to wed width Ⓐ: 48.9 – 49.1 mm**



OIL PUMP

DISASSEMBLY

- Remove the circlip ①, washer ②, oil pump driven gear ③ and pin ④.



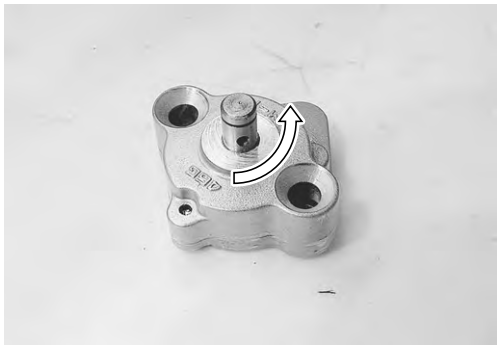
INSPECTION

Rotate the oil pump shaft by finger to inspect for abnormal play, noise and smooth rotation.

If there is anything unusual, replace the oil pump.

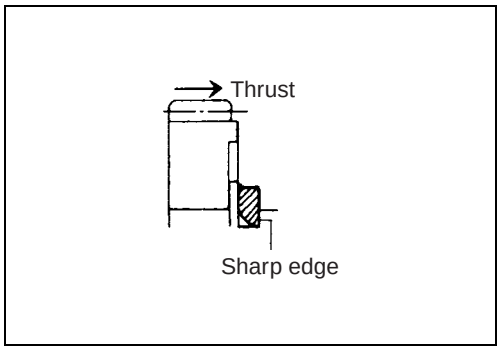
CAUTION

Do not attempt to disassemble the oil pump assembly. It is available only as an assembly.



REASSEMBLY

- Reassemble the oil pump driven gear in the reverse order of disassembly.
- When installing a new circlip, pay attention to the direction of the circlip. Fit it to the side where the thrust is as shown in the illustration.



MOVABLE DRIVE FACE

SPACER INSPECTION

- Remove the spacer.

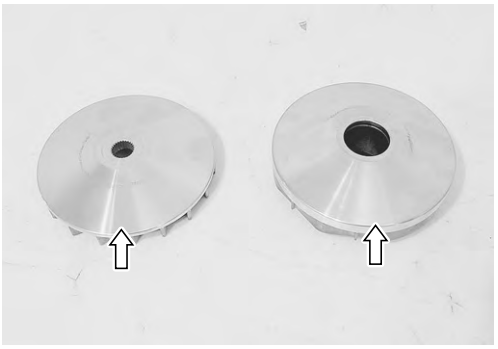
Check the spacer for any damage or wear.

If any defects are found, replace the spacer with a new one.

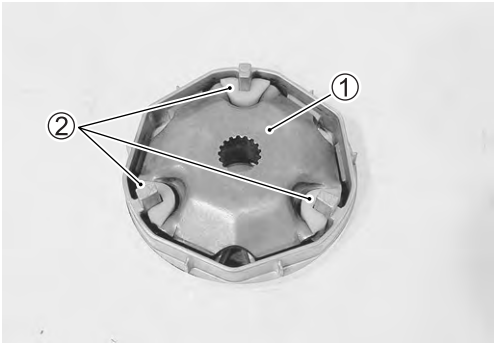
MOVABLE DRIVE FACE INSPECTION

Check the drive face for any abnormal condition such as stepped wear or discoloration caused by burning.

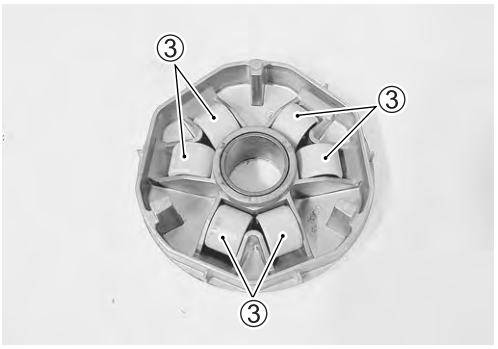
If any defects are found, replace the movable drive face with a new one.



- Remove the movable drive face plate ①.
- Remove the dampers ②.



- Pull out the six rollers ③.



ROLLER INSPECTION

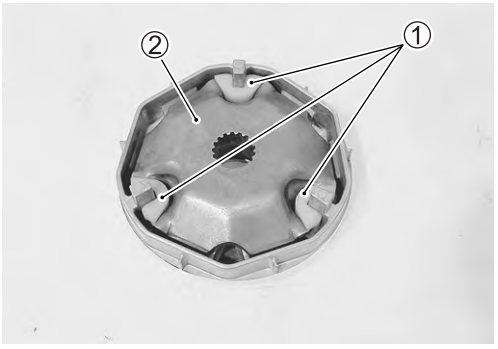
Check that there is no abnormal wear or damage on the roller. If any defects are found, replace the rollers as a set.

REASSEMBLY

- Reassemble the movable drive face in the reverse order of disassembly. Pay attention to the following points:
- Mount the three dampers ① on the movable drive plate ② and install it onto the movable drive face.

NOTE:

Make sure the movable drive plate is fully positioned inside the movable drive face or the rollers may fall out.



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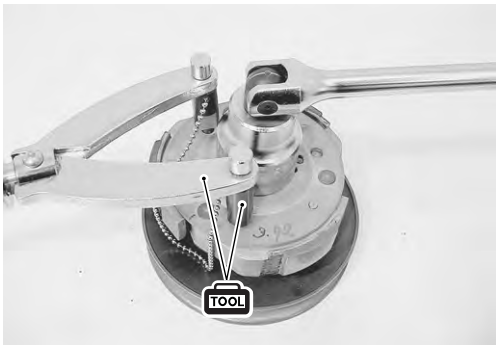
CLUTCH SHOE/MOVABLE DRIVEN FACE

DISASSEMBLY

- Loosen the clutch shoe nut with the special tool.

TOOL 09930-40113: Rotor holder
09930-40120: Rotor holder attachment (A)

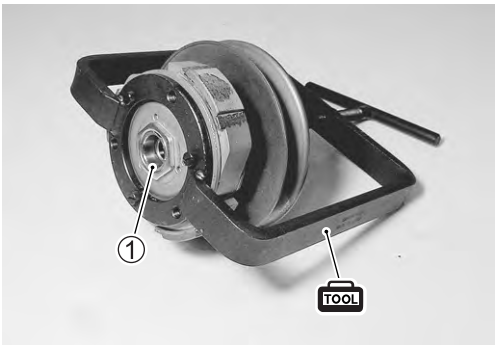


CAUTION

Do not remove the clutch shoe nut at this time.

- Lock the clutch shoe assembly with the special tool handle turned in.
- Remove the clutch shoe nut ①.

TOOL 09922-31430: Clutch spring compressor



CAUTION

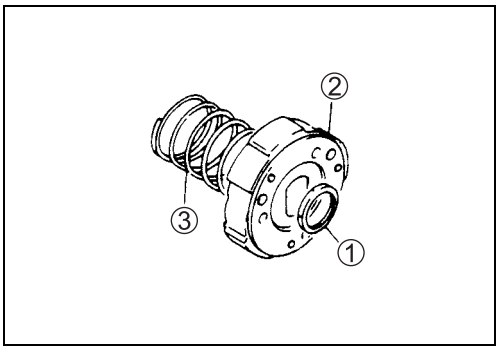
Since a high spring force applies to the clutch shoe assembly, care must be used so as not to cause the clutch shoe assembly and movable driven face to come off abruptly.

- Loosen the special tool handle slowly and remove the clutch shoe assembly.

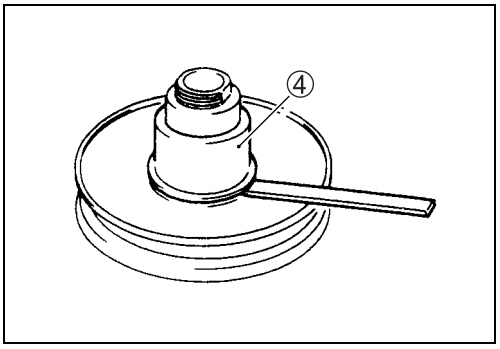
CAUTION

Do not attempt to disassemble the clutch shoe assembly.

① Nut
② Clutch shoe assembly
③ Spring



- Remove the movable driven face seat ④ with a thin blade screwdriver.



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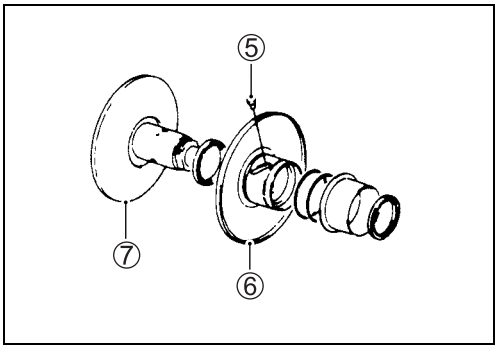
• Remove the pins ⑤, movable driven face ⑥, and fixed driven face ⑦.

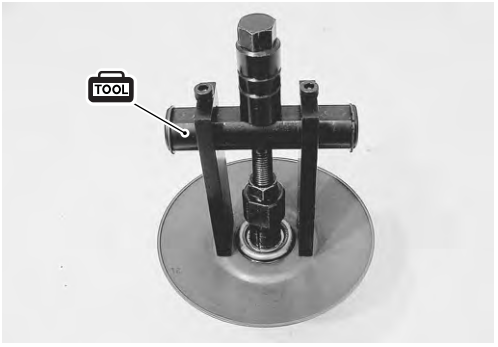


• Remove the bearing with the special tool.

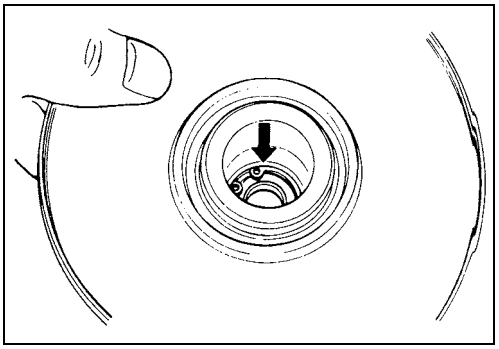
TOOL 09921-20240: Bearing remover set

CAUTION

The removed bearing should be replaced with a new one.



• Remove the snap ring.

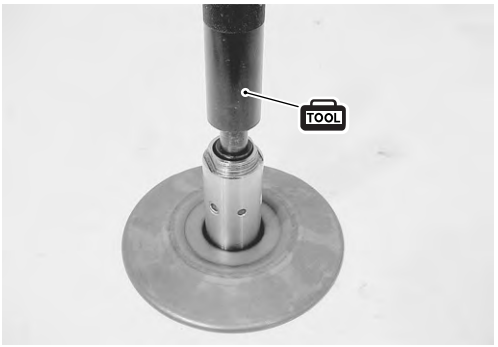


• Remove the bearing with the special tool.

TOOL 09913-70210: Bearing remover

CAUTION

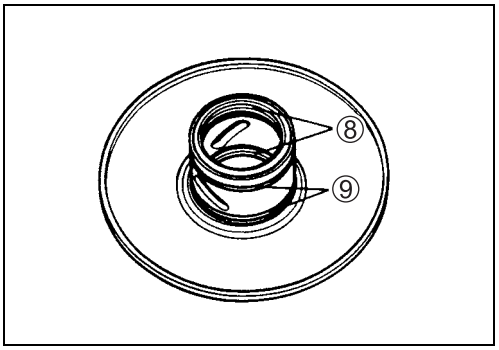
The removed bearing should be replaced with a new one.



• Remove the oil seals ⑧ and O-rings ⑨.

CAUTION

The removed oil seals and O-rings should be replaced with new ones.



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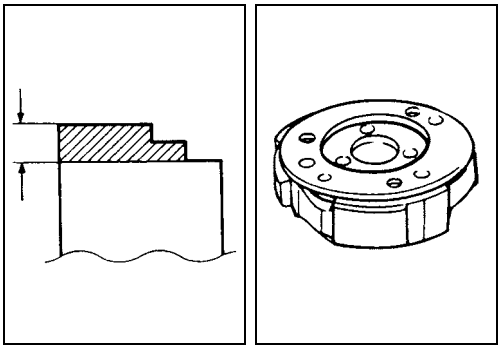
CLUTCH SHOES INSPECTION

Inspect the clutch shoes for chips, cracks, uneven wear and burning. Check the thickness of the shoes using vernier calipers. If any damages are found or if the thickness is less than the service limit, replace the clutch shoe assembly.



TOOL 09900-20101: Vernier calipers

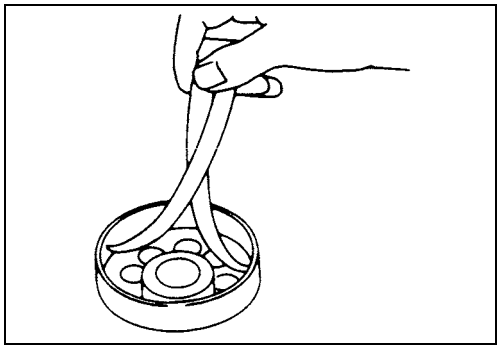
DATA Clutch shoe thickness
Service Limit: 2.5 mm

Inspect the clutch springs for stretched or broken coils. If any damages are found, replace the clutch shoe assembly.

CAUTION

Replace the clutch shoe assembly.

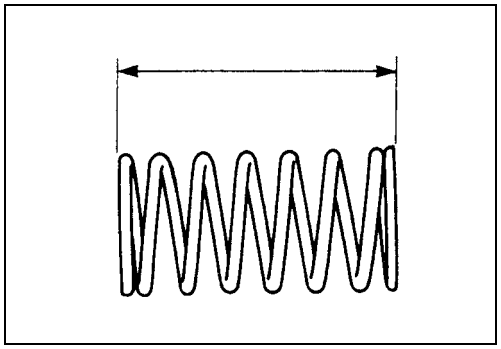
Inspect the clutch housing surface for scrolling, cracks, or uneven wear and measure the inside diameter of the clutch housing with inside calipers. Measure the diameter at several points to check for out-of-round and wear. If any damages are found or if the inside diameter exceeds the service limit, replace the clutch housing with a new one.



DATA Clutch housing I.D.
Service Limit: 125.5 mm

DRIVEN FACE SPRING INSPECTION

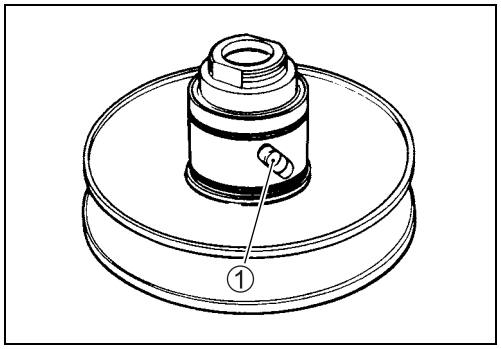
Measure the free length of the driven face spring. If the length is shorter than the service limit, replace the spring with a new one.



DATA Driven face spring length
Service Limit: 99.8 mm

DRIVEN FACE PINS INSPECTION

Rotate the driven faces and make sure they turn smoothly.
If they stick or do not turn smoothly, inspect the sliding pins ① for wear or damage. If any damages are found, replace the driven face with a
new one.



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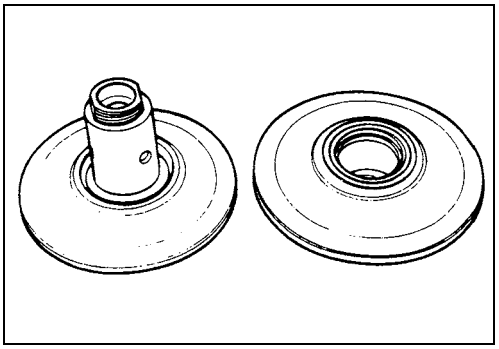
DRIVEN FACE INSPECTION

Inspect the drive belt contacting surface of both driven faces for any scratches, wear or damage. If any damages are found, replace the driven faces with new ones.



REASSEMBLY

Reassemble the clutch shoe assembly and movable driven face in the reverse order of disassembly. Pay attention to the following points.

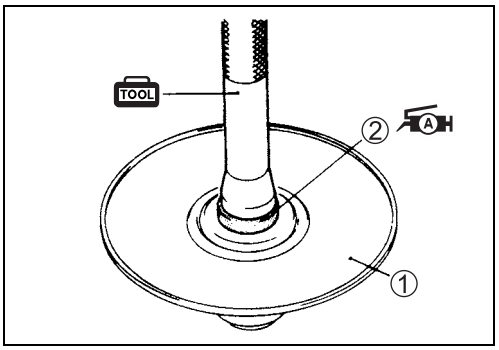
- Install the bearing ② in the fixed driven face ① with the special tool.

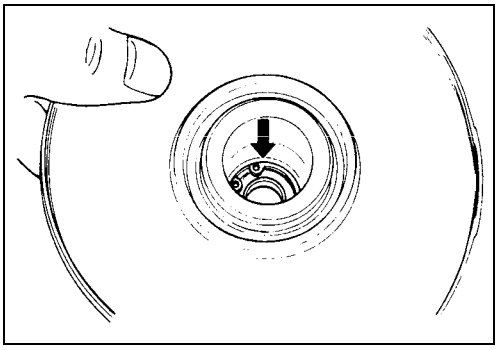
TOOL 09943-88211: Bearing installer

- Apply SUZUKI SUPER GREASE "A" to the bearing ②.

A 99000-25010: SUZUKI SUPER GREASE "A"

- Securely install the snap ring.

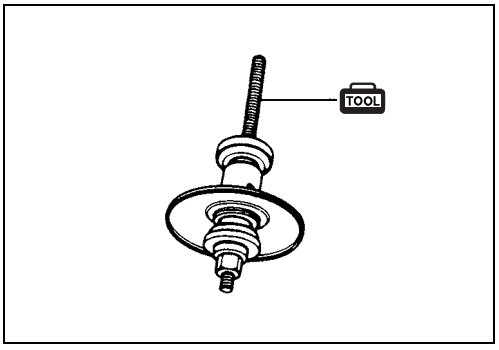




- Install the bearing with the special tool.

TOOL 09924-84510: Bearing installer

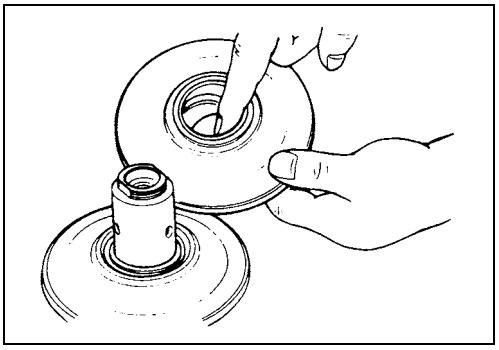
NOTE:
Face the stamped side of the bearing out.



- Apply SUZUKI SUPER GREASE "A" between the sliding surface of the fixed driven face and movable driven face.

A 99000-25010: SUZUKI SUPER GREASE "A"

NOTE:
When installing the movable face to the fixed face, make sure the oil seal is positioned properly.



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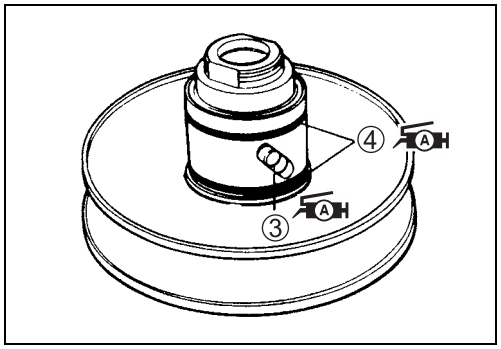
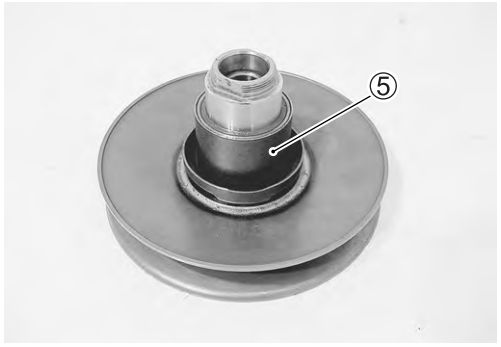
- Install the pins ③ at three places on the drive face hub.
- Apply as small amount of SUZUKI SUPER GREASE “A” to the cam where the pins are placed.

99000-25010: SUZUKI SUPER GREASE “A”

- Install the new O-rings ④.
- Apply SUZUKI SUPER GREASE “A” to the O-rings.

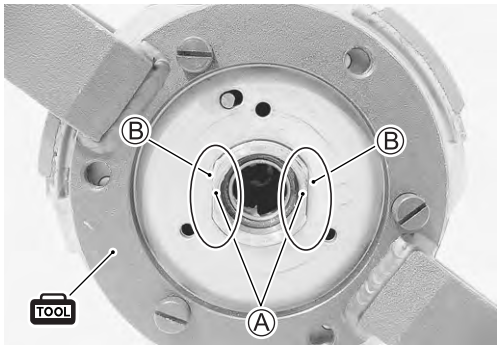


- Install the movable driven face spring guide ⑤.

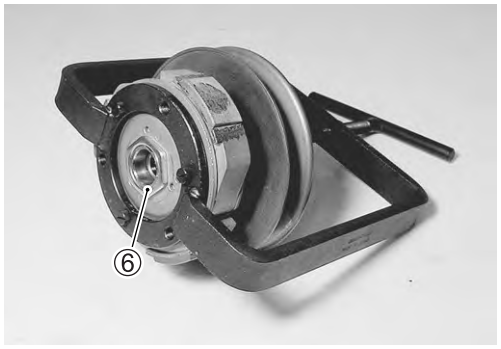


- Slowly turn the special tool handle to tighten and align the flats Ⓐ at the movable driven face end with clutch shoe plate hole Ⓑ.

09922-31430: Clutch spring compressor



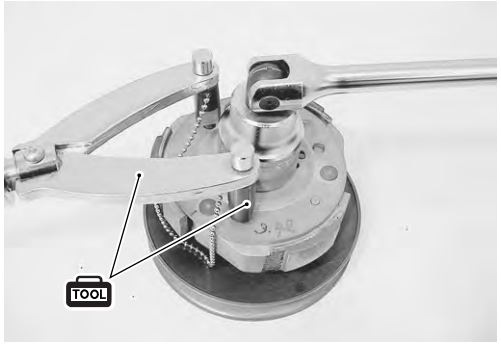
- Check that the special tool dogs are engaged with the clutch shoe plate holes and screw the clutch shoe nut ⑥.



- Tighten the clutch shoe nut to the specified torque with the special tool.

09930-40113: Rotor holder
09930-40120: Rotor holder attachment (A)

Clutch shoe nut: 60 N·m (6.0 kgf-m)



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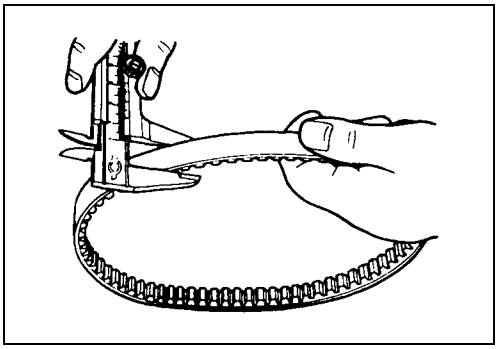
DRIVE BELT

Remove the drive belt and check for cracks, wear and separation and measure the drive belt width with vernier calipers. If any damages are found or if the width of the drive belt is less than the service limit, replace the drive belt with a new one.



DATA Drive belt width
Service Limit: 18.9 mm

TOOL 09900-20101: Vernier calipers

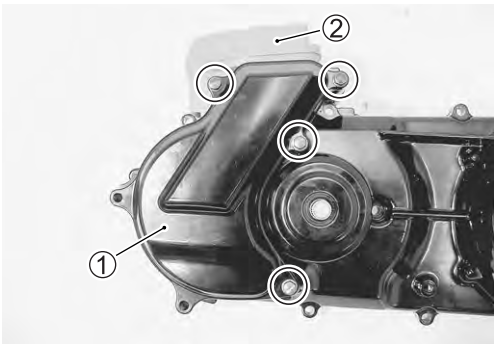
CAUTION

Always keep the drive belt away from grease, oil, etc.

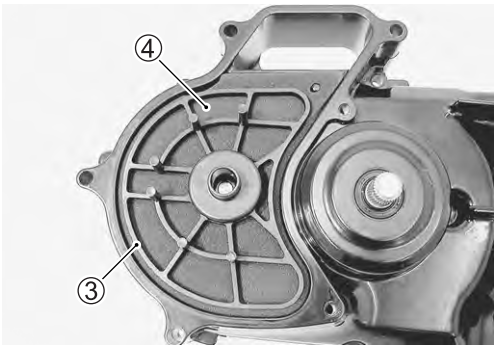
DRIVE BELT FILTER

DISASSEMBLY

- Remove the cooling belt cover ① and duct ②.



- Remove the plate ③ and filter ④.

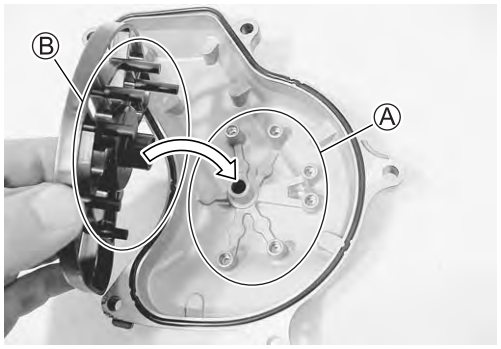


INSPECTION

- Check the drive belt filter for clogging. If they are clogged, clean or replace.

REASSEMBLY

- Reassemble the drive belt filter in the reverse order of disassembly. Pay attention to the following points:
- Install the plate after aligning the cooling belt cover holes Ⓐ with the plate pins Ⓑ.

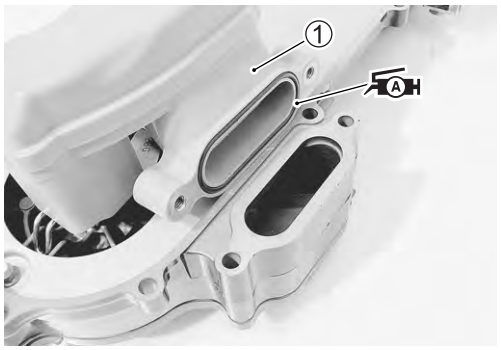


- Apply grease to the new O-ring and install the duct ①.

99000-25010: SUZUKI SUPER GREASE "A"

CAUTION

Use the new O-ring to prevent oil leakage.



STARTER CLUTCH

INSPECTION OF STARTER CLUTCH OPERATION

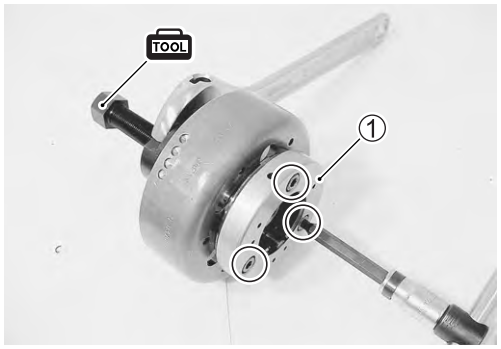
Turn the starter clutch gear by hand in the direction of arrow as shown and check that rotation is smooth. Also check that the gear is locked when attempted to turn in the other direction.
If a large resistance is felt or noise occurs when turning the gear, check the starter driven gear sliding surface for wear or damage. If any abnormal condition is found, replace the starter clutch with a new one.

DISASSEMBLY

- Remove the starter clutch gear.
- With the rotor held immovable, remove the starter clutch bolts.

09930-34980: Rotor holder

- Remove the starter clutch ① from the rotor.



- Remove the plate ②.

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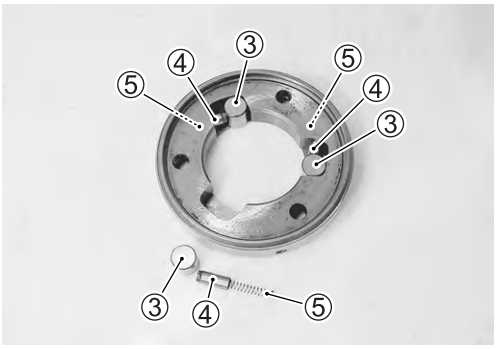
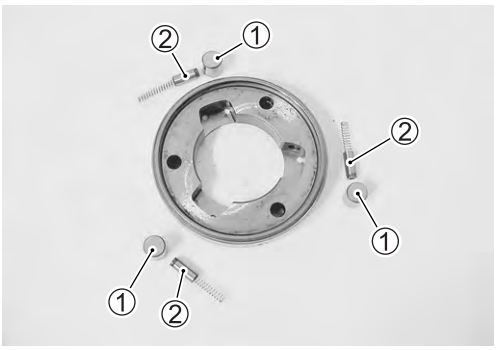
• Remove the roller ③, spring ④ and push pieces ⑤.



INSPECTION

Inspect the rollers ① and push pieces ② for damage and excessive wear. If any defects are found, replace the new one.



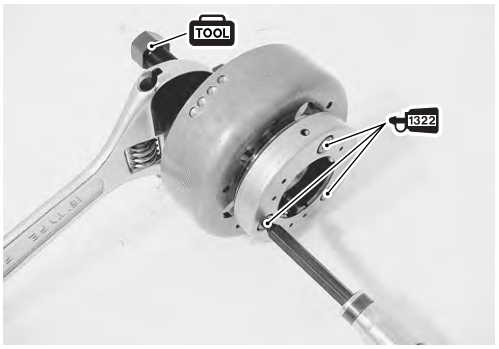
REASSEMBLY

• Reassemble the starter clutch in the reverse order of disassembly. Pay attention to the following points:
• Apply THREAD LOCK on the starter clutch bolts and tighten them to the specified torque.

Starter clutch bolt: 10 N·m (1.0 kgf-m)

99000-32110: THREAD LOCK SUPER "1322"

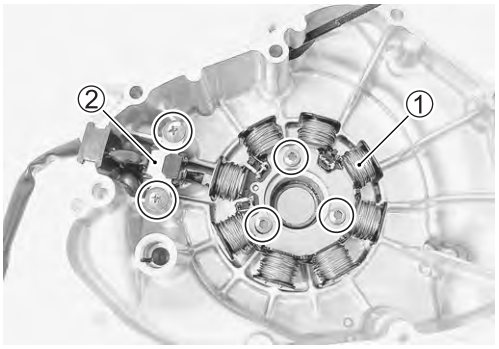
09930-34980: Rotor holder



MAGNETO COVER

DISASSEMBLY

• Remove the startor coil ① and pick-up coil ②.



• Remove the oil seal with the special tool.

09913-50121: Oil seal remover

CAUTION

Replace the removed oil seal with a new one.

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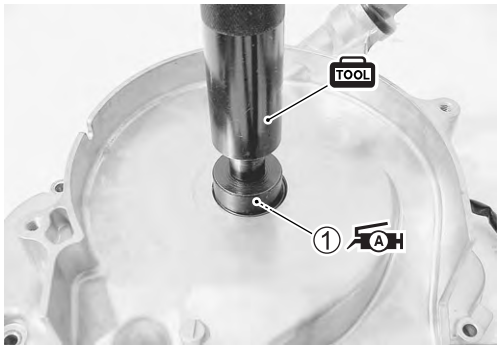
REASSEMBLY

- Reassemble the magneto cover in the reverse order of disassembly. Pay attention to the following points:
- Install the oil seal with the special tool.

09913-70210: Bearing installer set (35 mm)

- Apply a small quantity of SUZUKI SUPER GREASE "A" to the lip of the oil seal.

99000-25010: SUZUKI SUPER GREASE "A"



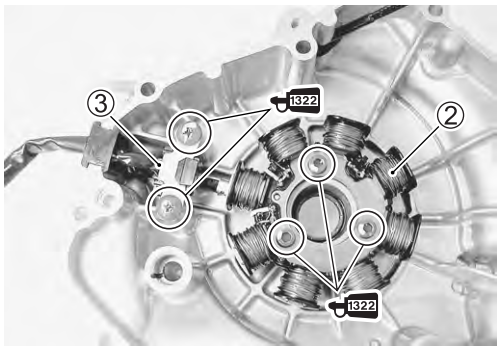
CAUTION

Install the oil seal ① with the marked code toward outside.

- When replacing the stator coil ② or pick-up coil ③, apply THREAD LOCK to the stator coil set bolts and pick-up coil set screws and tighten them to the specified torque.

Stator coil bolt: 6 N·m (0.6 kgf-m)

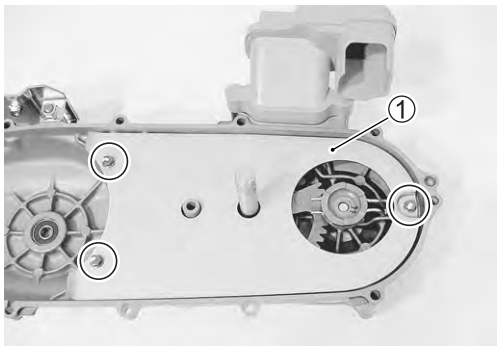
99000-32110: THREAD LOCK SUPER "1322"



KICK STARTER

DISASSEMBLY

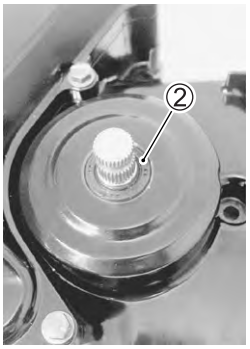
- Remove the clutch cover air intake plate ①.

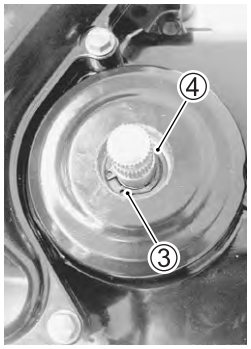


- Remove the oil seal ②, snap ring ③ and washer ④.

CAUTION

Replace the removal oil seal with a new one.





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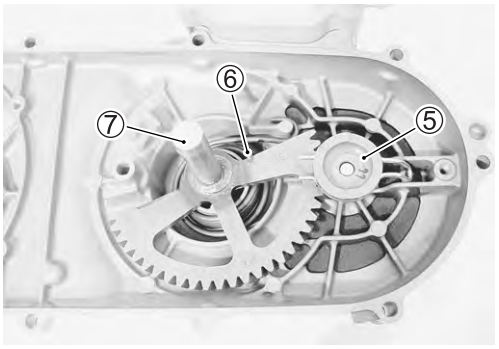
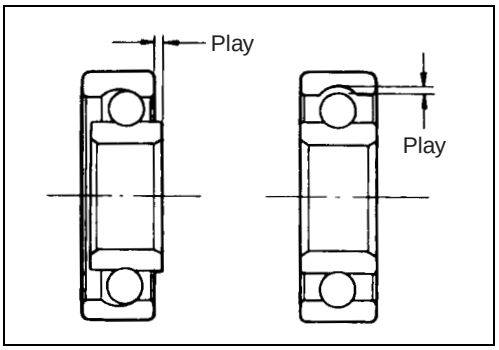
• Remove the kick starter driven gear ⑤, spring ⑥ and kick starter shaft ⑦.



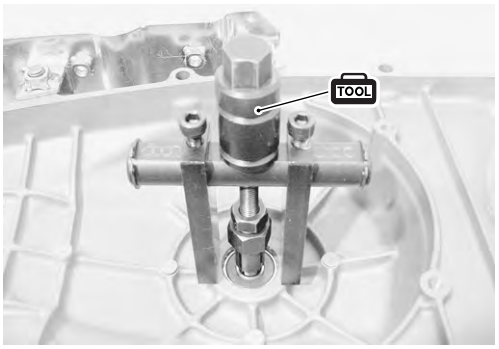
BEARING INSPECTION

Wash the bearing with a cleaning solvent and lubricate it with motor oil before inspection. Rotate the inner race and check to see that it turns smoothly. If it does not turn quietly and smoothly, or if there are signs of any abnormalities, the bearing is defective and must be replaced with a new one.



• Remove the kick starter shaft bearing with the special tool.

TOOL 09921-20240: Bearing remover set (10 mm)



REASSEMBLY

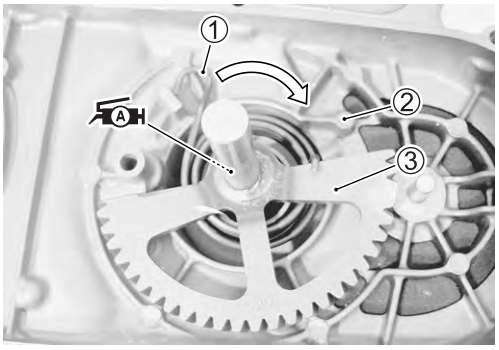
• Reassemble the kick starter in the reverse order of disassembly. Pay attention to the following points:
• Apply SUZUKI SUPER GREASE “A” onto the inside of the kick starter shaft spacer.

A 99000-25010: SUZUKI SUPER GREASE “A”

• Apply a light coat of SUZUKI SUPER GREASE “A” onto the end of the kick starter shaft.

A 99000-25010: SUZUKI SUPER GREASE “A”

• Install the kick starter return spring ①, kick starter shaft ③, and kick starter spring hook its end ① onto the clutch cover boss ②.



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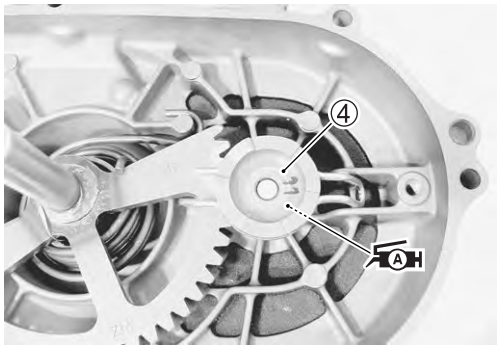
- Apply SUZUKI SUPER GREASE “A” onto the shaft and gear of the kick starter drive gear.

99000-25010: SUZUKI SUPER GREASE “A”

- Install the kick starter driven gear ④.

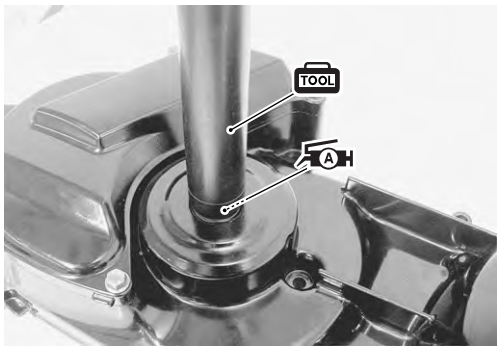


- Apply SUZUKI SUPER GREASE “A” to the oil seal lip.

99000-25010: SUZUKI SUPER GREASE “A”

- Install the kick starter shaft new oil seal with the special tool.

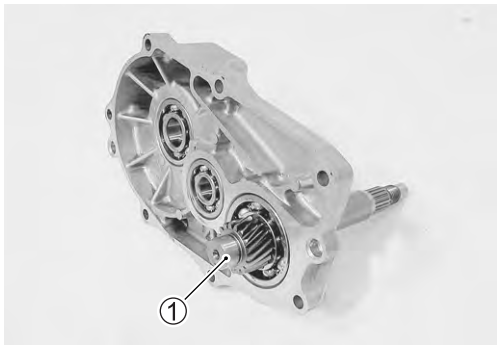
09925-98221: Bearing installer



REDUCTION GEAR

DISASSEMBLY

- Remove the driveshaft ①.



- Remove the driveshaft oil seal with the special tool.

09913-50121: Oil seal remover

CAUTION

Replace the removed oil seal with a new one.

INSPECTION

* Drive gear, idle gear and driveshaft damage or wear
* Improper tooth contact
* Shaft spline damage

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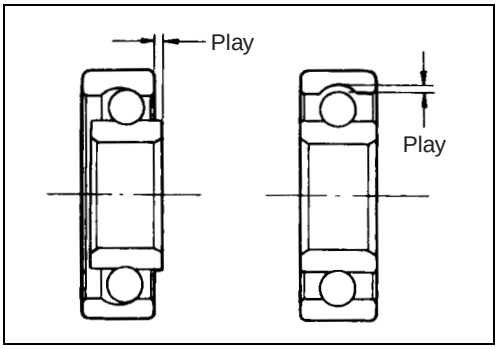
BEARING INSPECTION

Wash the bearing with a cleaning solvent and lubricate it with motor oil before inspection. Rotate the inner race and check to see that it turns smoothly. If it does not turn quietly and smoothly, or if there are signs of any abnormalities, the bearing is defective and must be replaced with a new one.

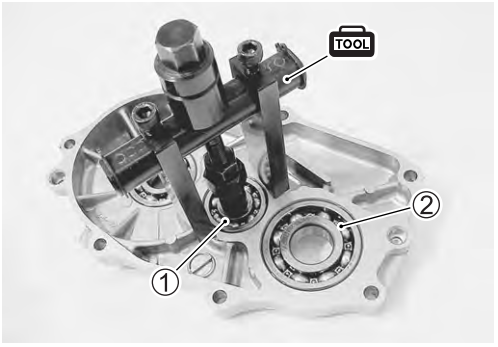


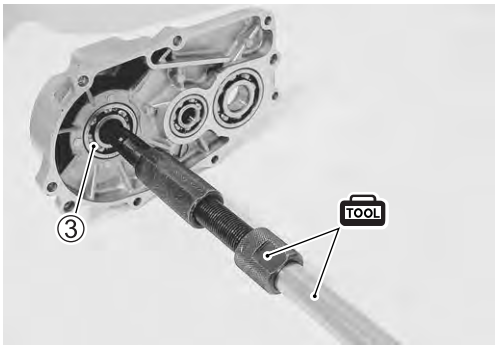
- Remove the bearing with the special tool.

TOOL **09921-20240: Bearing remover set ① (12 mm)**
② (20 mm)
09923-73210: Bearing remover ③ (17 mm)
09930-30104: Sliding shaft

CAUTION

Replace the removed bearing with a new one.





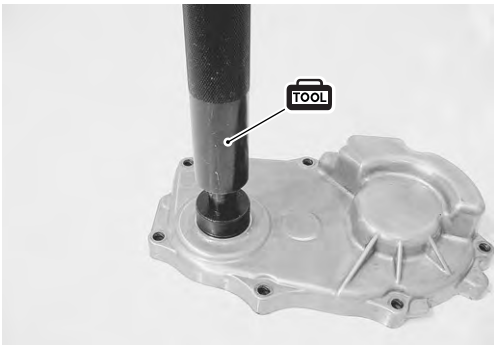
REASSEMBLY

- Reassemble the reduction gear in the reverse order of disassembly. Pay attention to the following points:
- Install the bearing with the special tool.

TOOL **09913-70210: Bearing installer set ① (40 mm)**
② (35 mm)
③ (47 mm)

- Install the driveshaft oil seal with the special tool.

TOOL **09913-70210: Bearing installer set (30 mm)**



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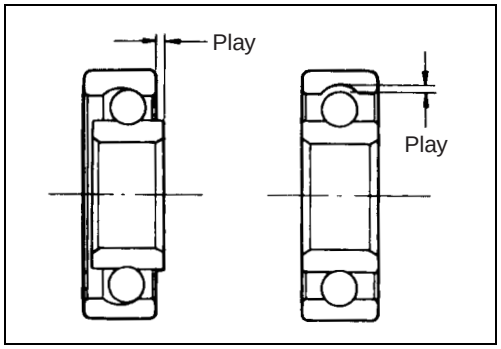
BEARING INSPECTION

Wash the bearing with a cleaning solvent and lubricate it with motor oil before inspection. Rotate the inner race and check to see that it turns smoothly. If it does not turn quietly and smoothly, or if there are signs of any abnormalities, the bearing is defective and must be replaced with a new one.



RIGHT CRANKCASE

BEARING REMOVAL

- Remove the crankshaft right bearing with the special tool.

TOOL 09913-70210: Bearing installer set (42 mm)

CAUTION

Replace the removed bearing with a new one.

BEARING INSTALL

- Install the bearing with the special tool.

TOOL 09913-70210: Bearing installer set (62 mm)

ENGINE MOUNTING BUSHING

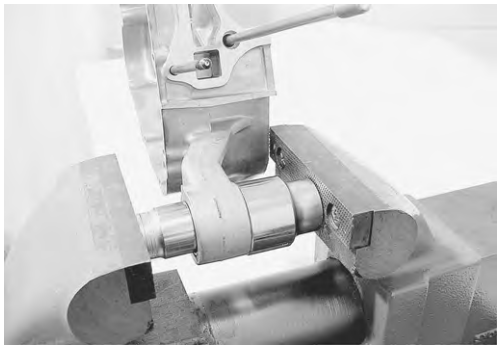
Inspect each engine mounting bushing ① for damage.

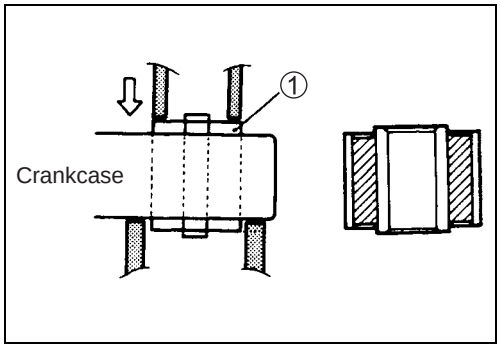
If any damage is found, replace the engine mounting bushing with a new one.

- Press out the engine mounting bushings in a vise using two steel tubes of the appropriate size, as shown.

CAUTION

Replace the removed bushing with a new one.





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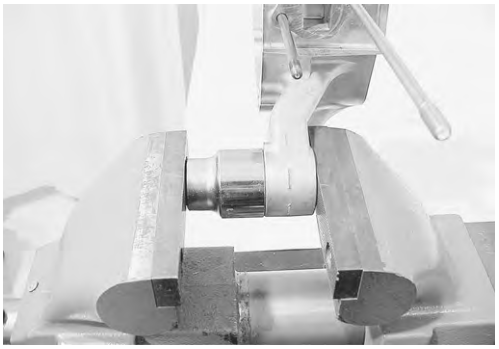
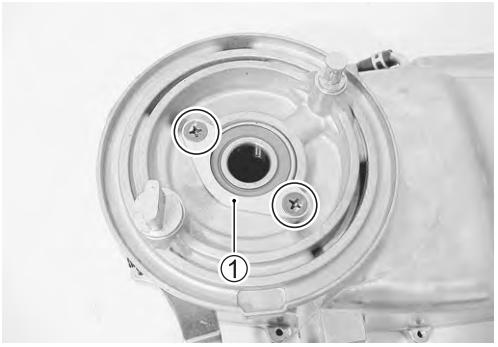
• Install the engine mounting bushing using two steel tubes of the appropriate size and a vise. Press the mounting bushing into the crankcase holes. (☞7-23)



LEFT CRANKCASE

BEARING/OIL SEAL REMOVAL

• Remove the bearing retainer ①.

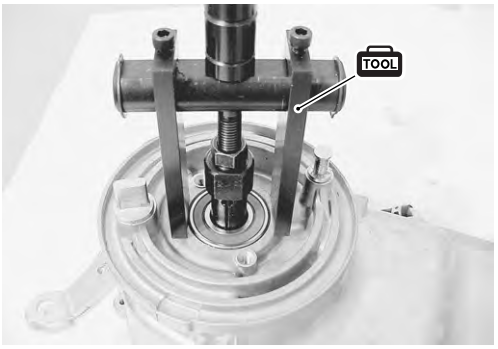


• Remove the rear axle shaft bearing with the special tool.

TOOL 09921-20240: Bearing remover set (20 mm)

CAUTION

Replace the removed bearing with a new one.

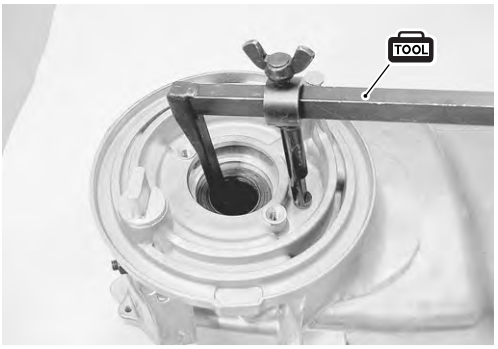


• Remove the rear axle shaft oil seal with the special tool.

TOOL 09913-50121: Oil seal remover

CAUTION

Replace the removed oil seal with a new one.

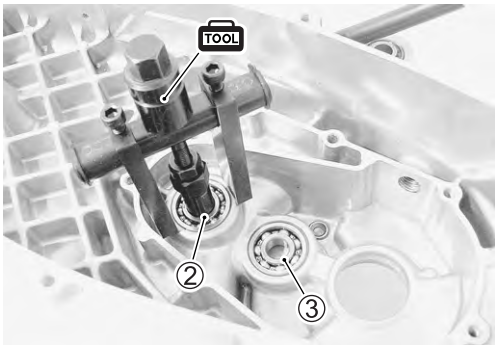


• Remove the idle shaft bearing ② and driveshaft bearing ③ with the special tool.

TOOL 09921-20240: Bearing remover set ② (15 mm)
③ (12 mm)

CAUTION

Replace the removed bearing with a new one.



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• Remove the crankshaft oil seal with the special tool.

TOOL 09913-50121: Oil seal remover

CAUTION

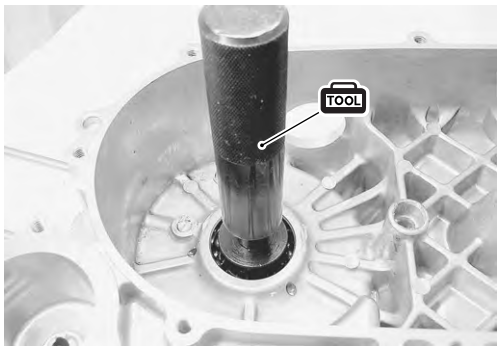
Replace the removed oil seal with a new one.

• Remove the crankshaft bearing with the special tool.

TOOL 09913-70210: Bearing installer set (35 mm)

CAUTION

Replace the removed bearing with a new one.



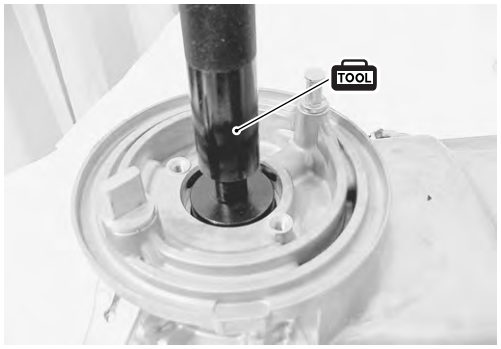
BEARING/OIL SEAL INSTALLATION

• Install the driveshaft bearing ① and idle shaft ② bearing with the special tool.

TOOL 09913-70210: Bearing installer set (32 mm)

• Install the rear axle shaft oil seal with the special tool.

TOOL 09913-70210: Bearing installer set (40 mm)



• Install the rear axle shaft bearing with the special tool.

TOOL 09913-70210: Bearing installer set (42 mm)

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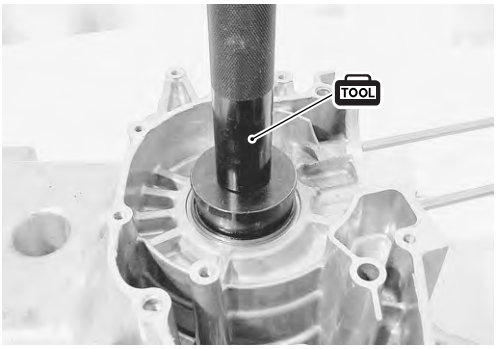
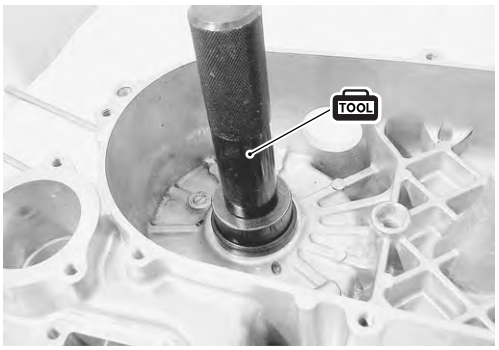
• Install the crankshaft bearing with the special tool.

TOOL 09913-70210: Bearing installer set (52 mm)



• Install the crankshaft oil seal with the special tool.

TOOL 09913-70210: Bearing installer set (42 mm)



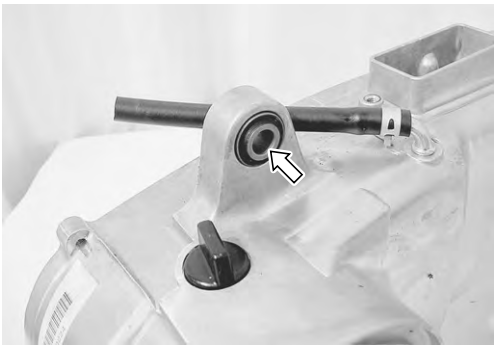
• Install the bearing retainer.

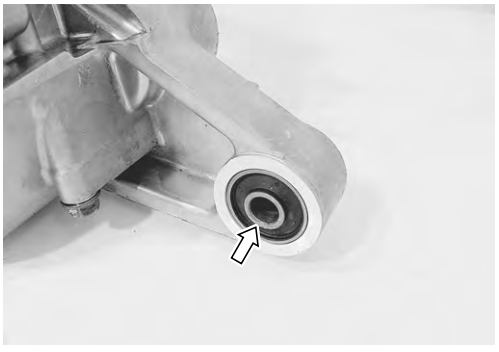
NOTE:
When installing the bearing retainers, apply THREAD LOCK to the screws.

1322 99000-32110: THREAD LOCK SUPER "1322"

ENGINE MOUNTING BUSHINGS

(☞3-51)





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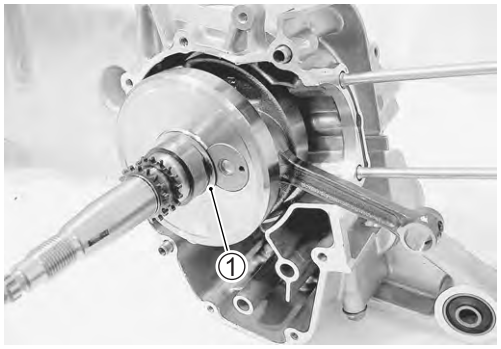
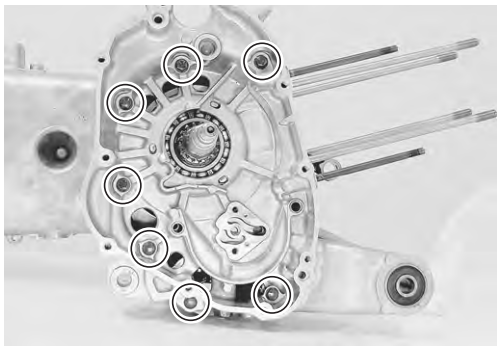
CRANKSHAFT SHIM SELECTION



- Degrease the right crankshaft web, shim and inner race of the right crankshaft bearing.
- Place the removed shim ① on the right crankshaft.
- Put the plasti-gauge (special tool) cut out about 10 mm on the shim as shown.

TOOL 09900-22302: Plasti-gauge



- Install the right crankcase and tighten the crankcase screws and bolts.
- Remove the crankcase screws and bolts.
- Separate the crankcase into 2 parts, left and right, with the special tool. (☞3-19)

TOOL 09920-13120: Crankcase separator

- Measure the width of compressed plasti-gauge with the envelope scale.

DATA Crankshaft thrust clearance: From – 0.02 to 0.07 mm

- If the thrust clearance is not within specification, select the proper size of shim.
- The shim size is printed on the shim surface.
- After selecting the proper size of shim, place it on the right crankshaft.

LIST OF SHIMS

Part number	Shim thickness	Thrust clearance
09181-35101	0.50 ± 0.02 mm	0.50 – 0.55 mm
09181-35025	0.55 ± 0.02 mm	0.55 – 0.60 mm
09181-35103	0.60 ± 0.02 mm	0.60 – 0.65 mm
09181-35026	0.65 ± 0.02 mm	0.65 – 0.70 mm
09181-35104	0.70 ± 0.02 mm	0.70 – 0.75 mm
09181-35105	0.75 ± 0.02 mm	0.75 – 0.80 mm
09181-35106	0.80 ± 0.02 mm	0.80 – 0.85 mm
09181-35107	0.85 ± 0.02 mm	0.85 – 0.90 mm
09181-35108	0.90 ± 0.02 mm	0.90 – 0.95 mm
09181-35109	0.95 ± 0.02 mm	0.95 – 1.00 mm
09181-35110	1.00 ± 0.02 mm	1.00 – 1.05 mm
09181-35113	1.05 ± 0.02 mm	1.05 – 1.10 mm
09181-35116	1.10 ± 0.02 mm	1.10 – 1.15 mm
09181-35118	1.15 ± 0.02 mm	1.15 – 1.20 mm
09181-35120	1.20 ± 0.02 mm	1.20 – 1.25 mm
09181-35123	1.25 ± 0.02 mm	1.25 – 1.30 mm
09181-35125	1.30 ± 0.02 mm	1.30 – 1.34 mm

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ENGINE REASSEMBLY

Reassemble the engine in the reverse order of disassembly.
Pay attention to the following points:

NOTE:
Apply engine oil to each running and sliding part before reassembling.

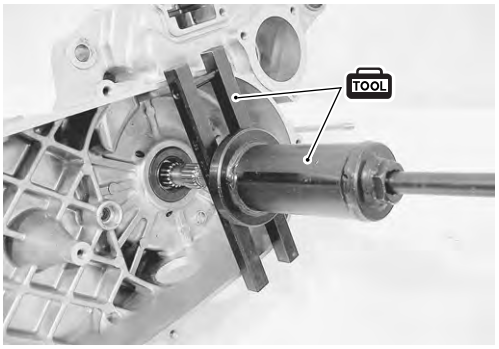
CAUTION

*** Make sure to coat the rotating and sliding sections with engine oil.**
*** Care must be taken so that the drive belt, drive face and driven face are completely free from oil and grease.**

CRANKSHAFT

- Mount the crankshaft into the right crankcase by pulling its right end into the crankcase with the special tools.

TOOL 09910-32812: Crankshaft installer
09910-20116: Conrod holder
09911-11310: Attachment

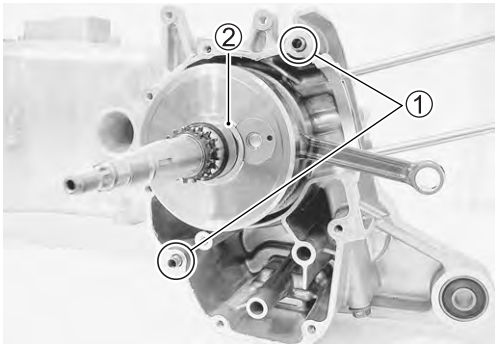


CAUTION

Never fit the crankshaft into the crankcase by striking it with a plastic hammer. Always use the special tool, otherwise the crankshaft may be misaligned.

CRANKCASE

- Clean and degrease the crankcase mating surfaces (both surfaces) with a cleaning solvent.
- Fit the dowel pins ① into the left crankcase.
- Install the shim ②. (☞3-55)



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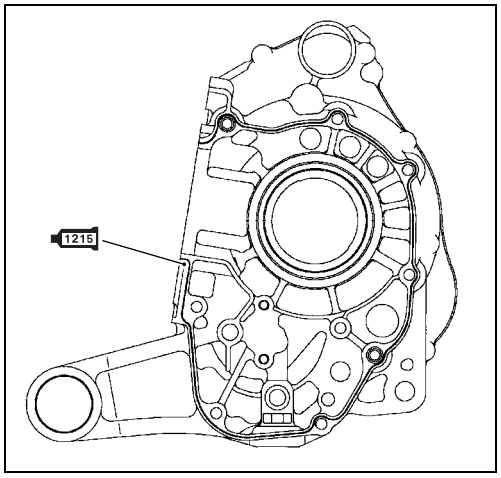
• Apply sealant to the right crankcase.

1215 99000-31110: SUZUKI BOND "1215"

CAUTION

*** Coat the sealant evenly without break.**
*** Application of sealant must be performed within a short period of time.**
*** Take extreme care not to let sealant enter into the oil hole or bearing.**

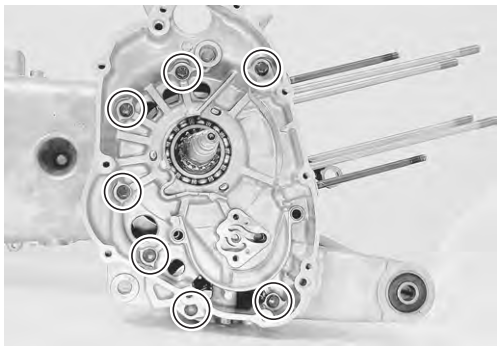


• Tighten the crankcase bolts to the specified torque.

Crankcase bolt: 10 N·m (1.0 kgf-m)

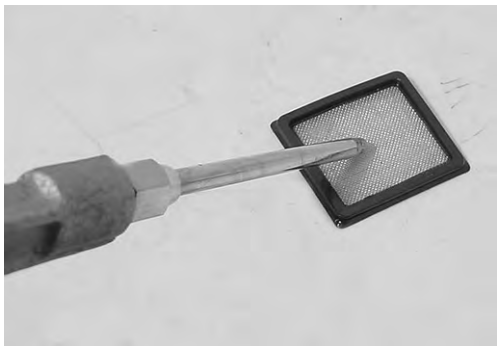
NOTE:

** After the crankcase bolts have been tightened, make sure that the crankshaft rotates smoothly.*
** If the crankshaft does not rotate smoothly, try to free it by tapping it with a plastic hammer.*

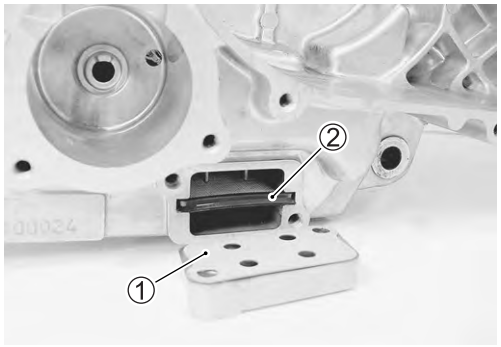


OIL SUMP FILTER

• Clean the oil sump filter using compressed air.



• Fit a new gasket ①.
• Install the oil sump filter ②.



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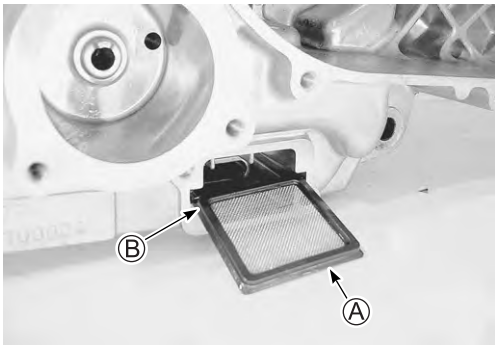
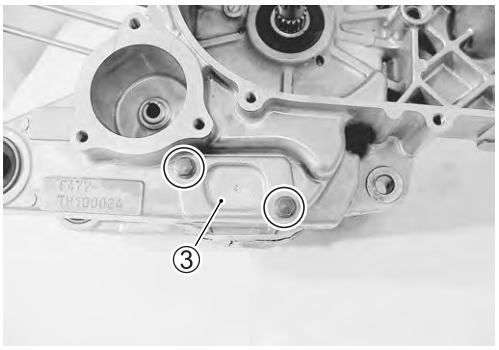
CAUTION

*** The lip Ⓐ of the oil sump filter should be positioned downward.**
*** The thinner side Ⓑ of the oil sump filter should be positioned inside.**



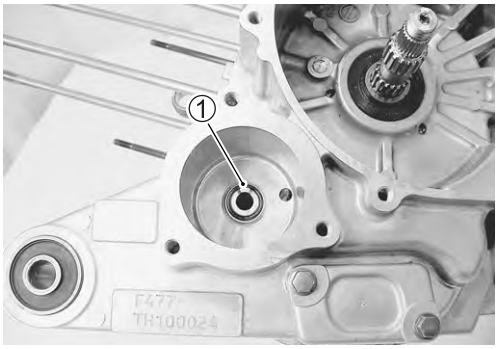
- Install the oil sump filter cap ③.
- Tighten the oil sump filter cap bolts to the specified torque.

Oil sump filter cap bolt: 10 N·m (1.0 kgf-m)



OIL FILTER

- Fit the O-ring ①.



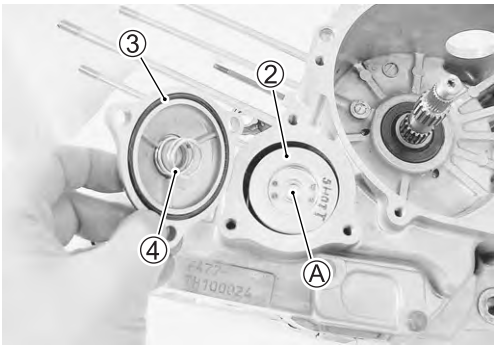
- Position the oil filter ②.
- Fit the O-ring ③ and spring ④.

CAUTION

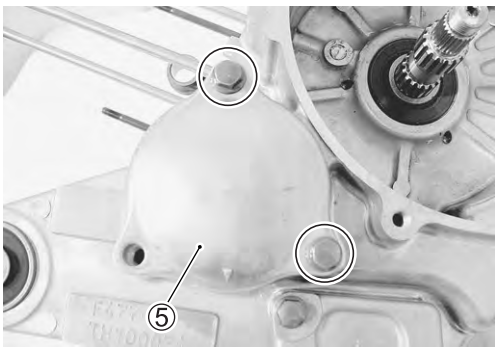
Make sure to replace the O-ring with a new one.

CAUTION

Position the oil filter so that the valve Ⓐ comes outside.



- Install the oil filter cap ⑤.



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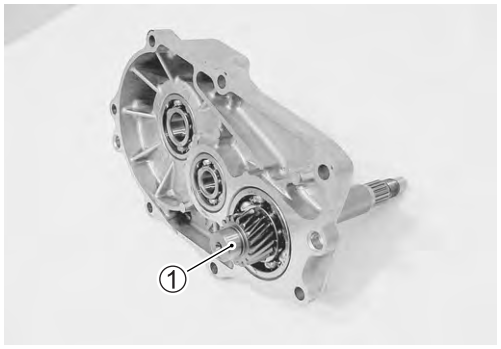
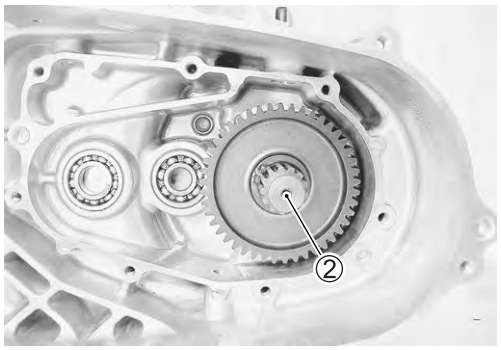
REDUCTION GEAR

- Install the driveshaft ① to the case.



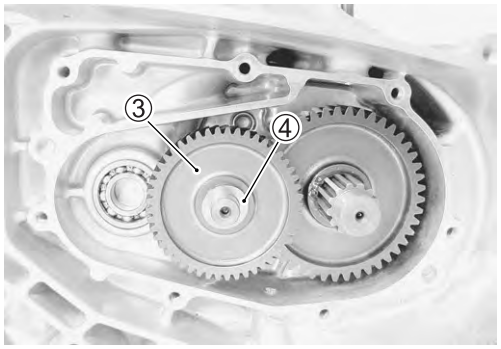
- Install the rear axle shaft ②.



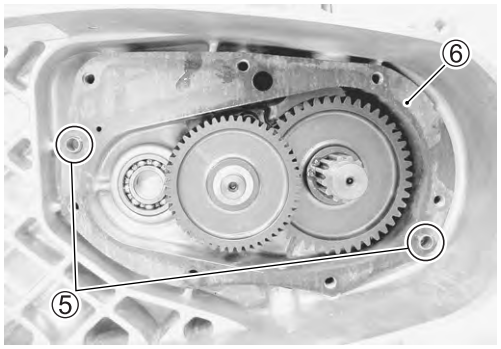
- Install the idle driven gear ③ and washer ④.

CAUTION

Apply engine oil to each gear and shaft.

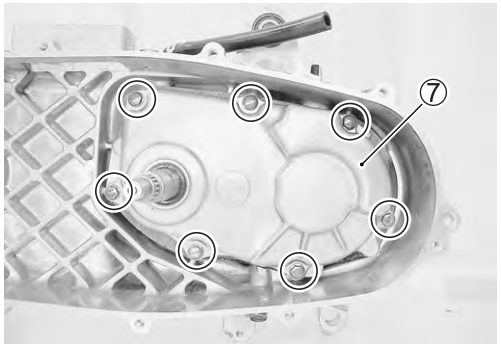


- Install the dowel pins ⑤ and new gasket ⑥.



- Install the reduction gear cover ⑦.
- Tighten the reduction gear cover bolts to the specified torque.

Reduction gear cover bolt: 10 N·m (1.0 kgf-m)



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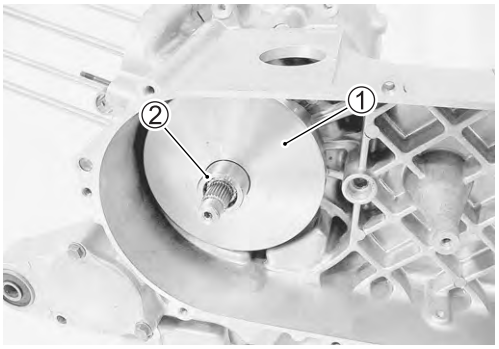
MOVABLE DRIVEN FACE

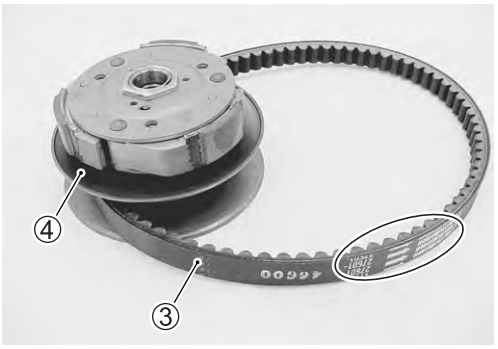
- Check that no roller inside the movable drive face is out of position from the slot.
- Install the movable drive face ① and spacer ②.



CAUTION

The assembly work should be carefully performed so as not to allow the roller to dislocate.

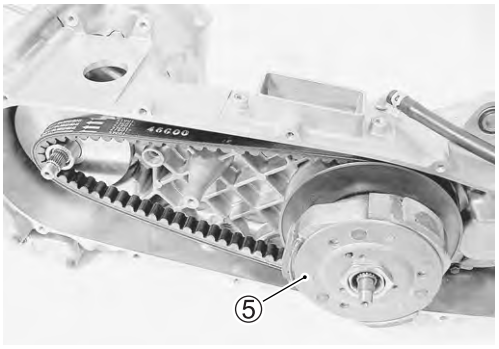
- With the clutch shoe spring compressed by hands, the movable driven face towards the clutch, install the drive belt ③ to the movable driven face ④.



CAUTION

*** Position the drive belt so that the arrow points the engine rotating direction.**
*** Degrease the drive belt contact surface (pulley face).**

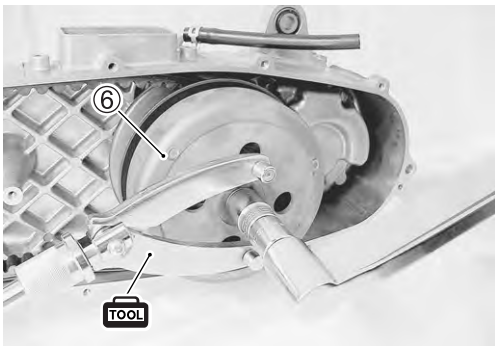
- Mount the clutch shoes/movable driven face assembly ⑤.



CAUTION

Pull the center area of upper and lower belt lines to be close to each other to prevent the belt from expanding.

- Install the clutch housing ⑥ and lock the clutch housing ⑥ with the special tool and tighten the clutch housing nut to the specified torque.



CAUTION

Degrease the inner surface of the clutch housing.

TOOL 09930-40113: Rotor holder

Clutch housing nut: 50 N·m (5.0 kgf-m)

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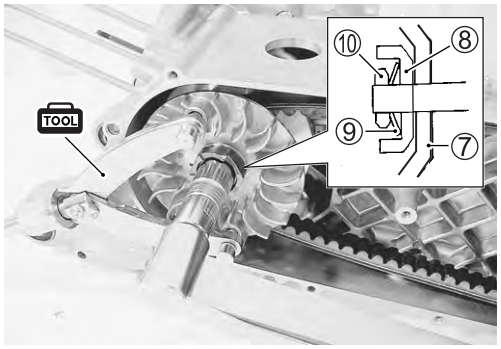
- Install the fixed drive face ⑦.
- Install the kick starter ⑧.
- Install the washer ⑨ and nut ⑩.



CAUTION

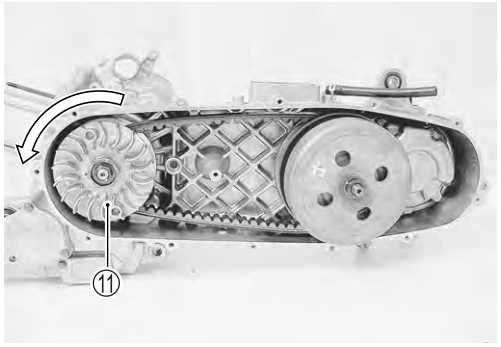
Check that the fixed drive face is not fouled with grease or other substance and if found, clean and degrease completely.
Check that the parts are properly engaged with the spline.

- With the fixed drive face locked, tighten the fixed drive face nut to the specified torque.

Fixed drive face nut: 50 N·m (5.0 kgf-m)

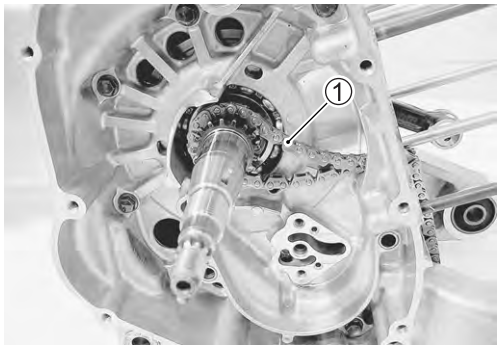
09930-40113: Rotor holder

- Turn the fixed drive face ⑪ by hand, until the drive belt is properly seated and both the drive and driven faces rotate together smoothly and without slipping.



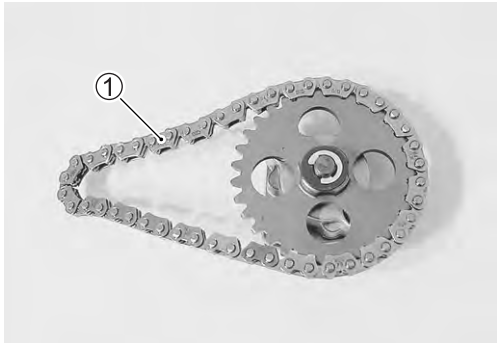
CAM CHAIN

- Install the cam chain ①.



OIL PUMP

- Install the cam chain ① with the oil pump gear.



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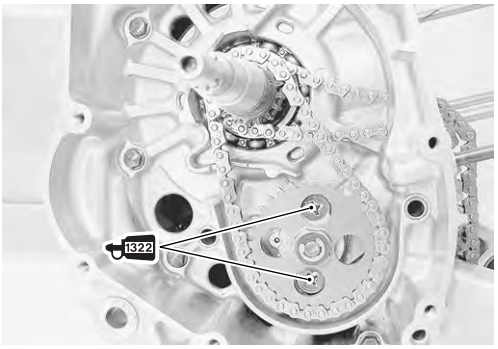
- With the other side of the chain engaged with the crankshaft gear, install the oil pump assembly after applying THREAD LOCK to the screw.

1322 99000-32110: THREAD LOCK SUPER "1322"

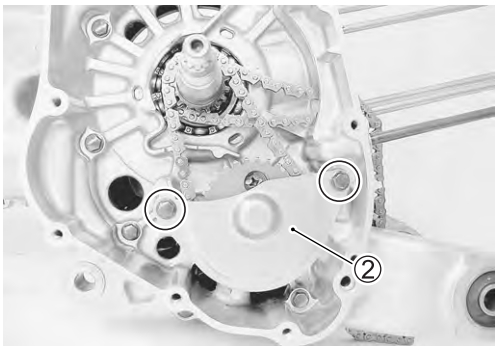
- Tighten the oil pump mounting screws to the specified torque.

Oil pump mounting bolt: 8 N·m (0.8 kgf-m)



- Install the oil pump cover ②.
- Tighten the oil pump cover bolts to the specified torque.

Oil pump cover bolt: 10 N·m (1.0 kgf-m)

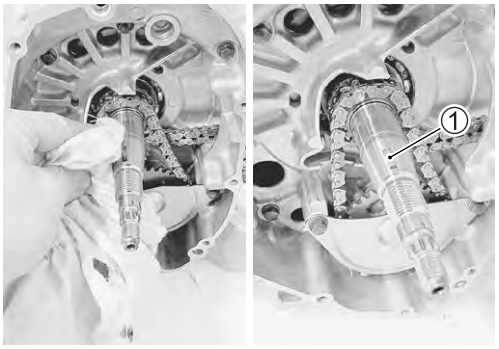


MAGNETOROTOR

- Install the key ①.

NOTE:

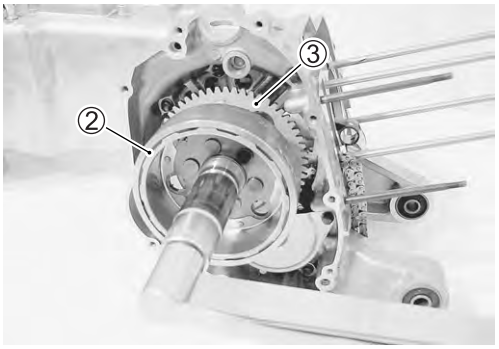
Remove any grease from the tapered portion of the magnetorotor and crankshaft.

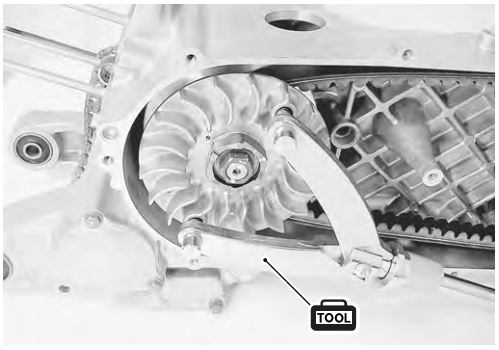


- Install the magnetorotor ② together with the starter clutch gear ③.
- With the fixed drive face locked, tighten the magnetorotor nut to the specified torque.

Magnetorotor nut: 120 N·m (12.0 kgf-m)

TOOL 09930-40113: Rotor holder





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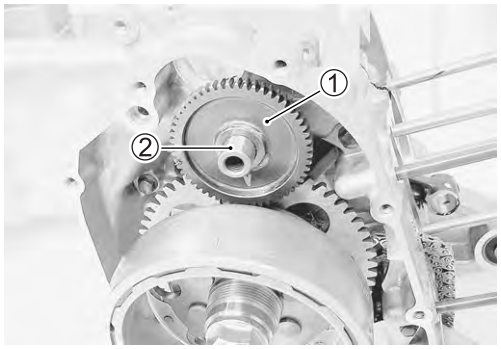
STARTER IDLE GEAR

- Install the starter idle gear ① onto the starter idle gear shaft ②.

CAUTION

Apply engine oil to each gear and shaft.

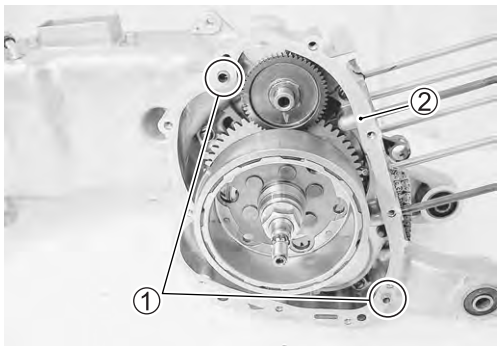


MAGNETO COVER

- Install the dowel pins ① and gasket ②.

CAUTION

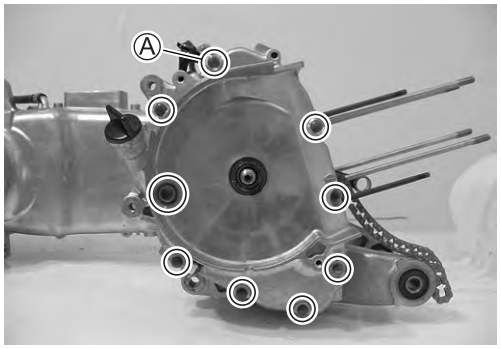
Make sure to replace the gasket with a new one.



- Install the magneto cover bolts to the specified torque.

NOTE:
Fit the clamp to the bolt Ⓐ as shown.

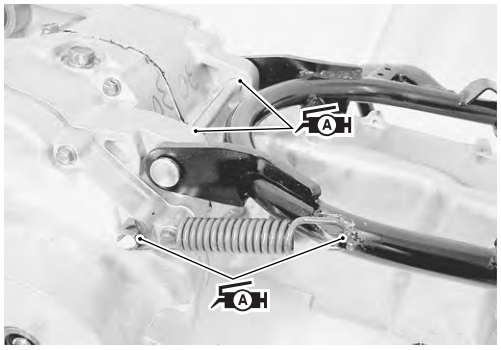
Magneto cover nut: 10 N·m (1.0 kgf-m)



CENTER STAND

- Install the center stand.
- Apply SUZUKI SUPER GREASE “A” to the center stand spring and shaft. (☞7-26)

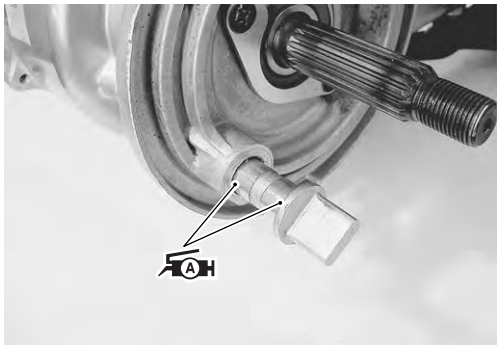
99000-25010: SUZUKI SUPER GREASE “A”



BRAKE CAM

- Apply SUZUKI SUPER GREASE “A” to the brake cam, and then install the brake cam into the crankcase.

99000-25010: SUZUKI SUPER GREASE “A”



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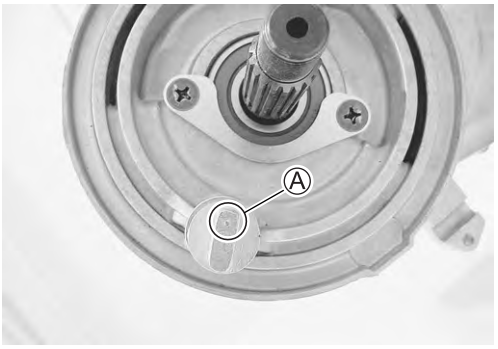
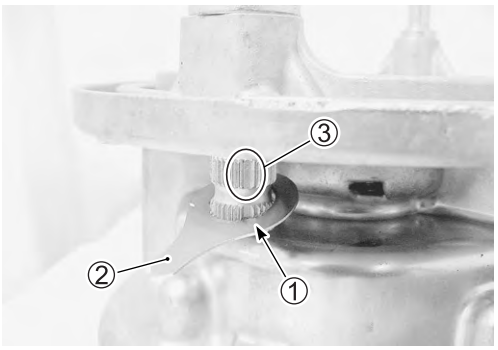
- Position the brake cam so that the punch mark Ⓐ faces the rear axle shaft. (☞7-27)

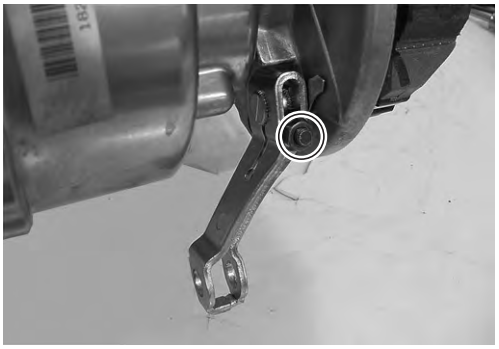


- Align the tang ① on the brake lining wear indicator plate ② with the cutaway ③ on the brake cam. Then, slide the brake lining wear indicator plate ② onto the brake cam.



- Install the return spring and brake cam lever onto the brake cam and tighten the brake cam lever nut to the specified torque.

Brake cam lever nut: 11 N·m (1.1 kgf-m)



REAR WHEEL

- Install the brake shoes and rear wheel.
- Install the washer and nut.
- Tighten the rear axle nut to the specified torque.

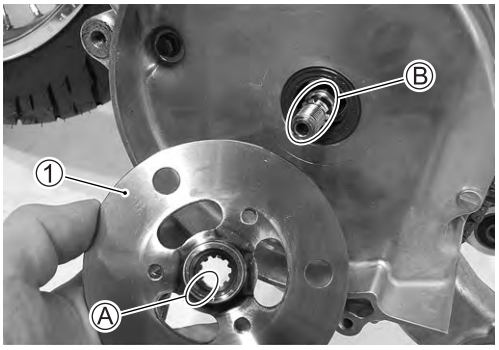
Rear axle nut: 120 N·m (12.0 kgf-m)

COOLING FAN

- Install the cooling fan holder ①.

NOTE:

When installing the cooling fan holder, align the wide spline teeth Ⓐ and Ⓑ.



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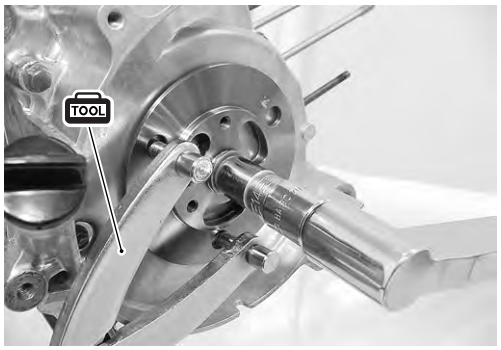
- Install the washer ②.

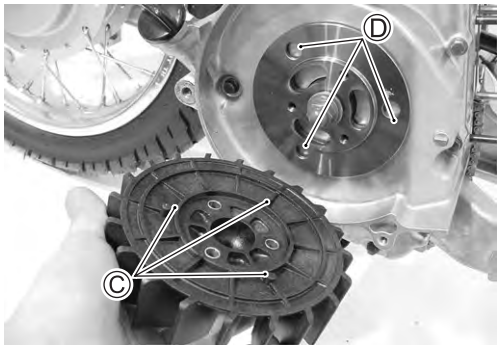
- Tighten the cooling fan holder nut to the specified torque with the special tool.

Cooling fan holder nut: 33 N·m (3.3 kgf-m)

09930-40113: Rotor holder



- Align the boss Ⓒ of the cooling fan to the groove Ⓓ of the cooling fan holder.

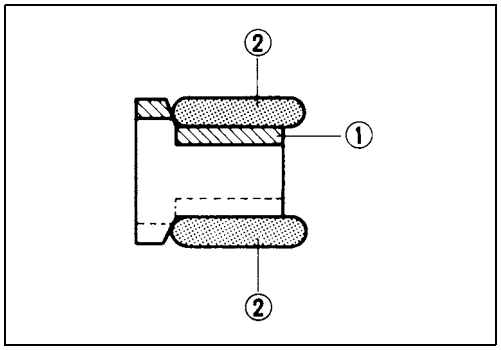


- Tighten the cooling fan bolt to the specified torque.

Cooling fan bolt: 10 N·m (1.0 kgf-m)

POSTON RING

- Install the spacer ① into the oil ring groove first.Then, install both side rails ②, one on each side of the spacer. The spacer and side rails do not have a specific top or bottom when they are new. When reassembling used parts, install them in their original place and direction.



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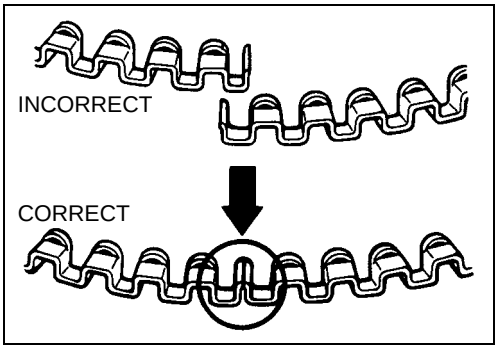
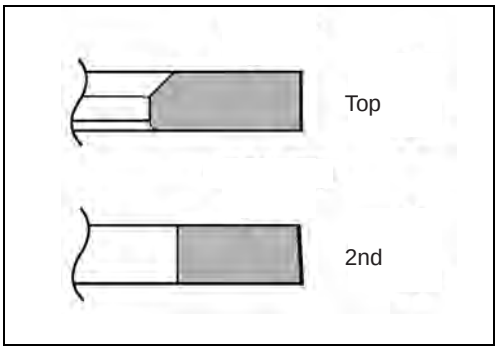
CAUTION

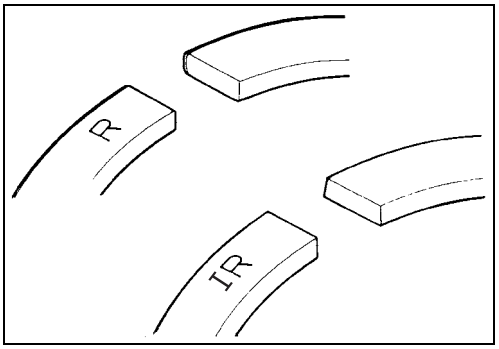
When installing the spacer, be careful not to allow its two ends to overlap in the groove.



- Top ring and 2nd ring differ in the shape of ring face, and the face of top ring is chrome-plated whereas that of 2nd ring is not. The color of 2nd ring appears darker than that of the top one.

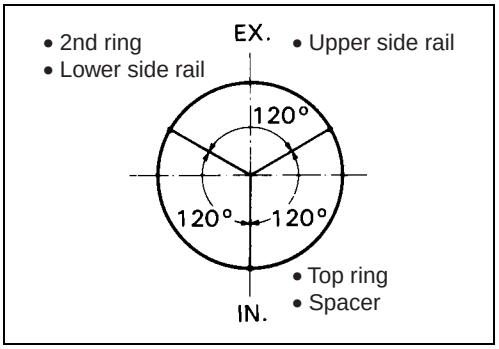


- The 1st and 2nd piston rings should be installed with their marks facing up.



- Position the gaps of the three rings as shown.

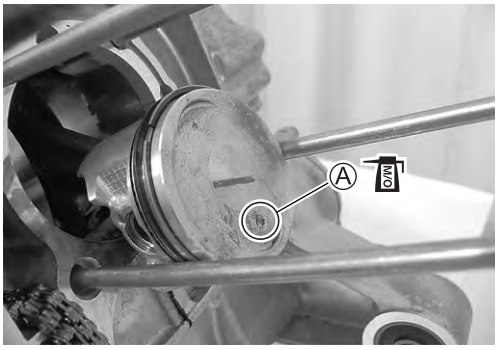
NOTE:
Before inserting piston into the cylinder, check that the gaps are so located.



PISTON

- Rub a small quantity of molybdenum oil solution onto the piston pin.
- Place a clean rag over the cylinder base to prevent the piston pin circlips from dropping into the crankcase.
- Install the piston with the arrow mark Ⓐ facing towards the exhaust side.

MOLYBDNUM OIL SOLUTION



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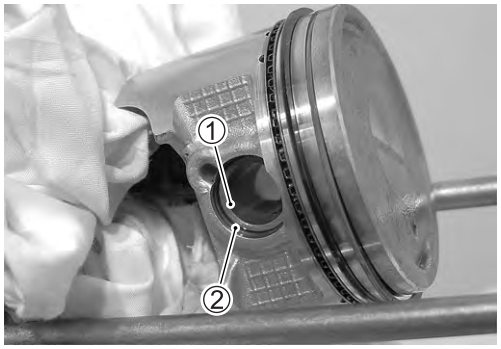
• After the piston pin ① has been inserted through the conrod, install the circlip ②.

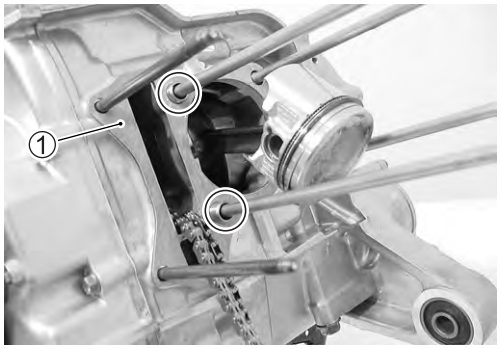


CAUTION

*** Replace the circlip with a new one.**
*** Place a piece of rag under the piston when installing the circlip to prevent it from falling into the crankcase.**
*** The circlip end gap must be positioned so as not to coincide with the piston pin bore cutaway.**

CYLINDER

• Before installing the cylinder, oil the big end and small end of the conrod and also the sliding surface of the piston.
• Install the dowel pins and a new gasket ①.



CAUTION

Use a new gasket to prevent oil leakage.

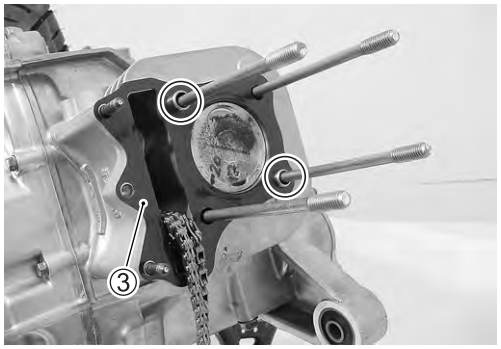
• Hold each piston ring with properly position, and insert the piston into the cylinder.

NOTE:
When mounting the cylinder, keep the camshaft drive chain taut.

• Install the cam chain guide ②.

CYLINDER HEAD

• Install the dowel pins and a new gasket ③.



CAUTION

Use a new gasket to prevent gas leakage.

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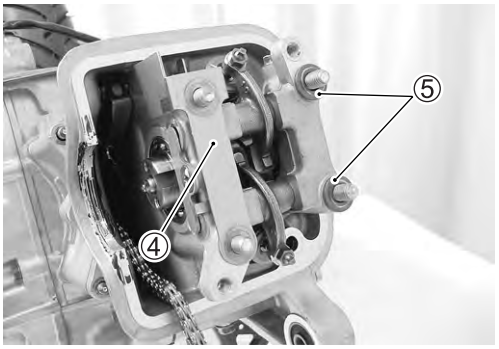
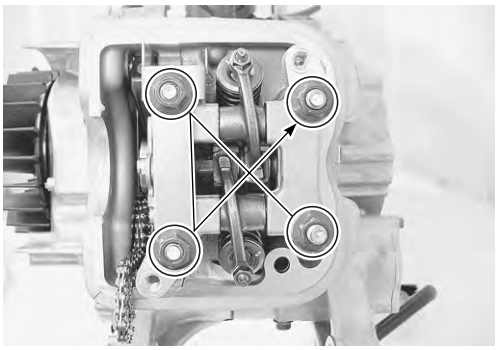
- Install the cylinder head and the oil separator plate ④ and washer ⑤.



- Tighten the cylinder head nuts to the specified torque diagonally.

Cylinder head nut: 25 N·m (2.5 kgf-m)



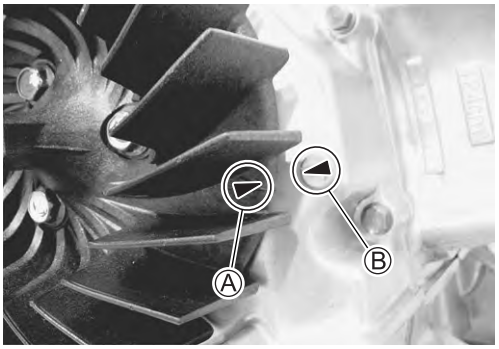
- Tighten the cylinder head side nuts to the specified torque.

Cylinder head side nut: 10 N·m (1.0 kgf-m)

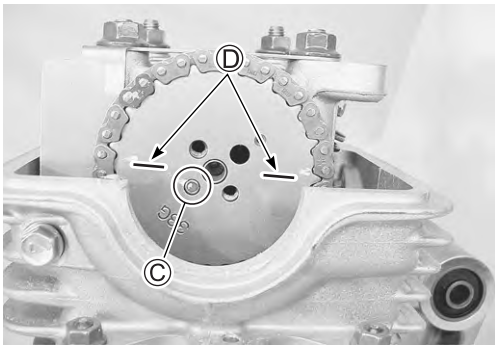
- Turn the crankshaft clockwise with a box wrench and align the "TOP" mark Ⓐ on the cooling fan with the index mark Ⓑ on the magneto cover keeping the camshaft drive chain pulled upward.

CAUTION

If crankshaft is turned without drawing the camshaft drive chain upward, the chain will be caught between crankcase and cam chain drive sprocket.



- Engage the chain on the cam sprocket with the locating pin Ⓒ at just top position.
- Align the engraved line mark Ⓓ on the cam sprocket so it is parallel with the surface of the cylinder head.



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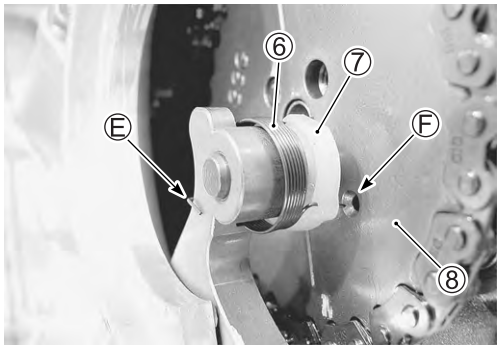
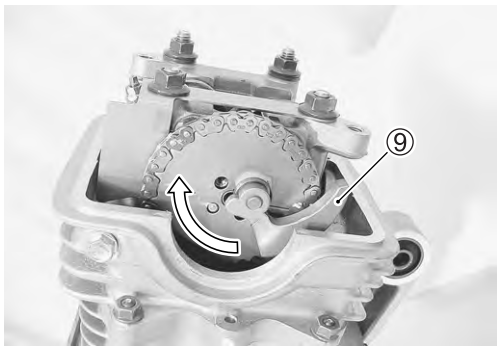
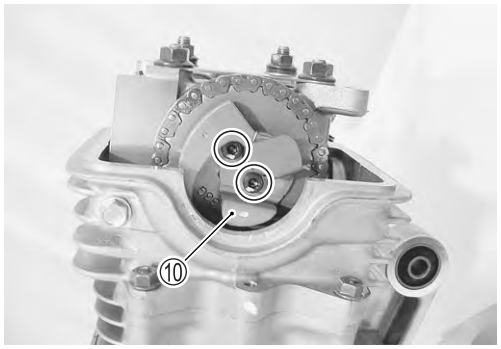
- Install the spring ⑥ and plastic washer ⑦ to the decompression cam.
- Hook the part Ⓔ of the spring onto the cam and fit the part Ⓕ to the washer's slit and hole of cam sprocket ⑧.



- Turn the decompression cam ⑨ clockwise, and install the decomp cam stopper ⑩.
- Tighten the camshaft sprocket bolts to the specified torque.

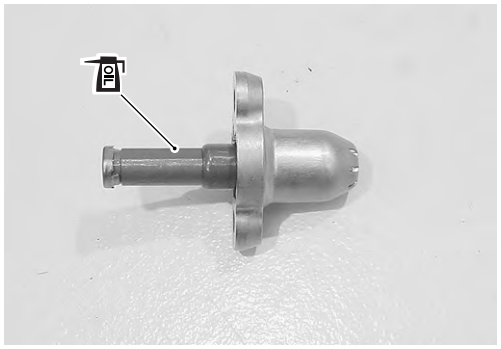
Camshaft sprocket bolt: 11 N·m (1.1 kgf-m)



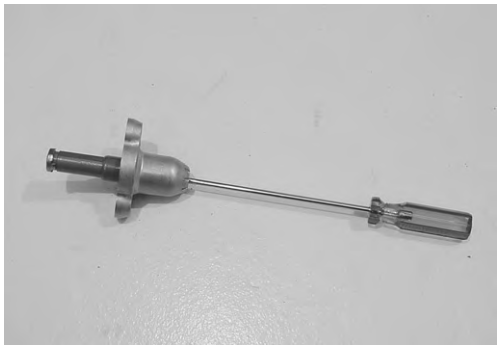


CAM CHAIN TENSION ADJUSTER

- Apply engine oil to the push rod.



- Turn the adjusting screw clockwise with a flat-bladed screw driver to lock.



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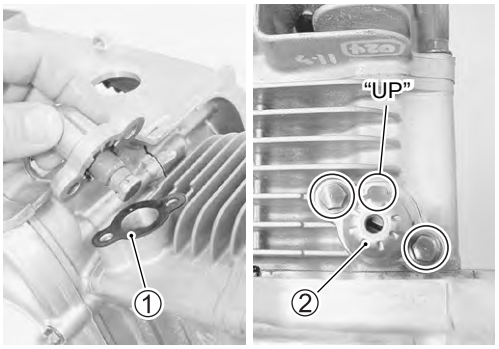
• Fit a new gasket ① to the cam chain tension adjuster body ②.

CAUTION

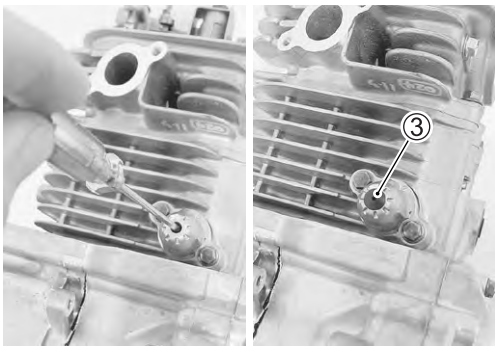
Use a new gasket to prevent oil leakage.

• Install the cam chain tension adjuster body to the cylinder and tighten the bolts to the specified torque.

Cam chain tension adjuster mounting bolt: 10 N·m (1.0 kgf-m)



• Turn the adjusting screw counterclockwise with a flat-bladed screw driver to unlock.
• Install the rubber cap ③.



• After installing the cam chain tension adjuster, rotate the crankshaft (some turns), and recheck the positions of the cam shafts.

CAUTION

Be sure to check the valve clearance. (☞2-6)

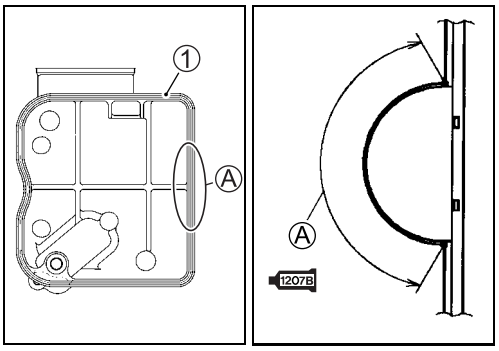
CYLINDER HEAD COVER

• Fit a new gasket ① to the cylinder head cover.
• Apply sealant to cam end cap.

1207B 99104-31140: SUZUKI BOND "1207B"

CAUTION

Make sure to replace the gasket with a new one.



• Place the cylinder head cover on the cylinder head.
• Fit a new gasket ② to each head cover bolt ③.

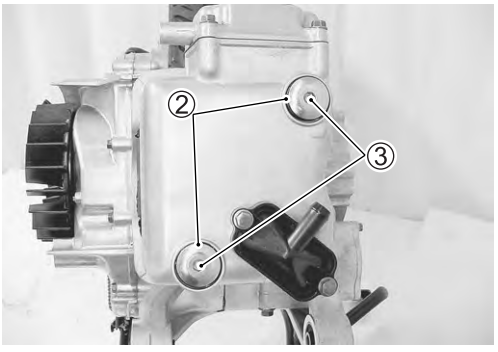
CAUTION

Use a new gasket to prevent oil leakage.

• Tighten the head cover bolts to the specified torque.

Head cover bolt: Intial: 10 N·m (1.0 kgf-m)
Final: 14 N·m (1.4 kgf-m)

• Install the spark plug. (☞2-7)



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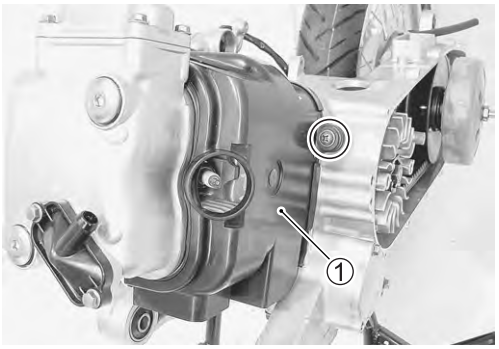
CYLINDER COWLING

- Install the cylinder cowling left cover ①.



INTAKE PIPE

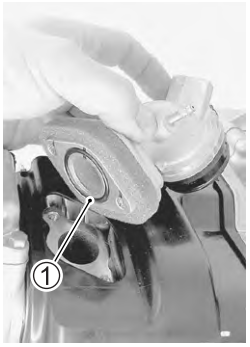
- Install the intake pipe.

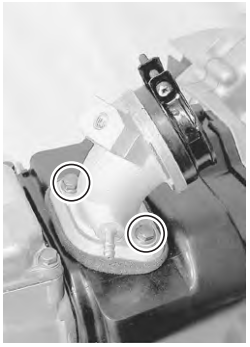
CAUTION

Use a new O-ring ① to prevent sucking air from the joint.

- Tighten the intake pipe mounting bolts to the specified torque.

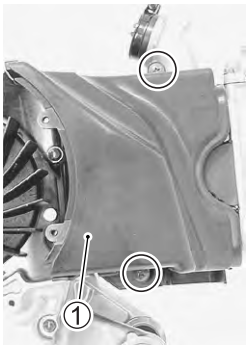
Intake pipe mounting bolt: 10 N·m (1.0 kgf-m)

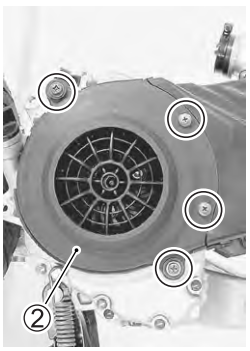




FAN COWLING COVER

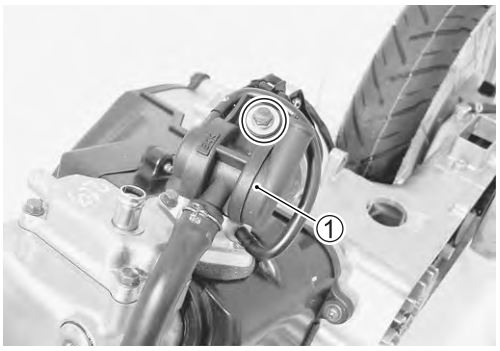
- Install the fan cylinder cowling right cover ① and fan cowling cover ②.





PAIR CONTROL VALVE

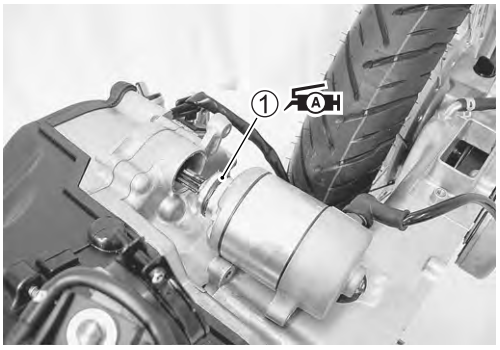
- Install the PAIR control valve ①. (☞7-18)



STARTER MOTOR

- Fit the O-ring ① to the starter motor.
- Apply a small amount of grease to the O-ring ①.

99000-25010: SUZUKI SUPER GREASE "A"



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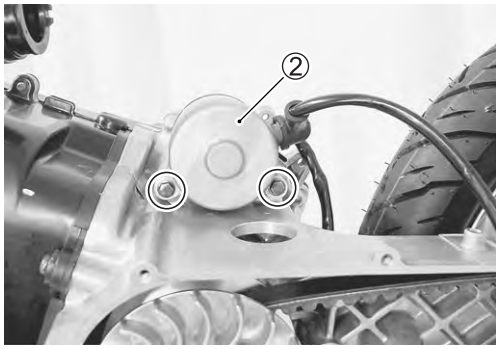
- Mount the starter motor ② on the engine.
- Tighten the starter motor bolts to the specified torque.

Starter motor mounting bolt: 10 N·m (1.0 kgf-m)

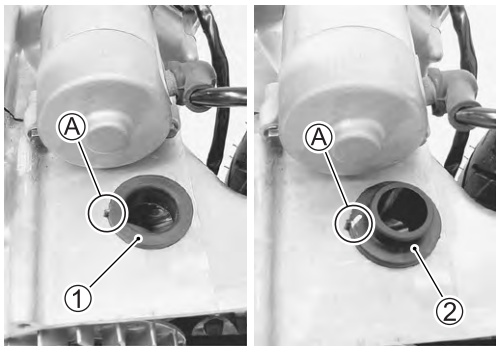


CRANKCASE TUBE GROMMET

- Install the crankcase tube grommet No.1 ① and No.2 ②.

NOTE:

The boss Ⓐ of the crankcase tube grommet faces front side.

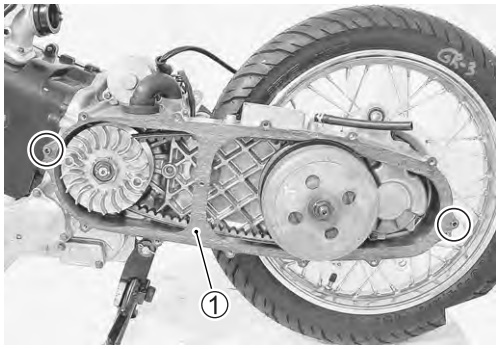


CLUTCH COVER

- Install the dowel pins and new gasket ①.

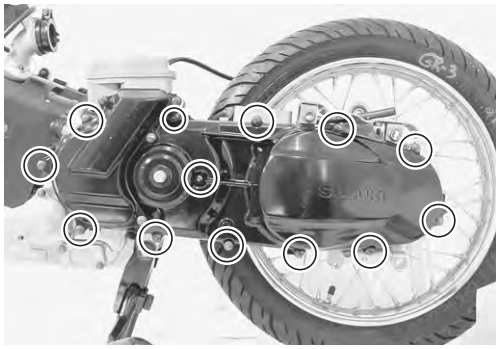
CAUTION

Use a new gasket to the prevent oil leakage.



- Install the clutch cover and its bolts to the specified torque.

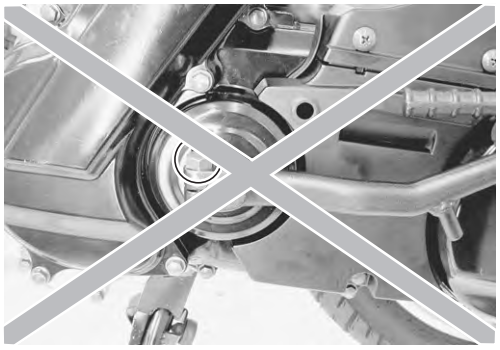
Clutch cover bolt: 10 N·m (1.0 kgf-m)



KICK STARTER LEVER

- Install the kick starter lever and bolt to the specified torque.

Kick starter lever bolt: 26 N·m (2.6 kgf-m)



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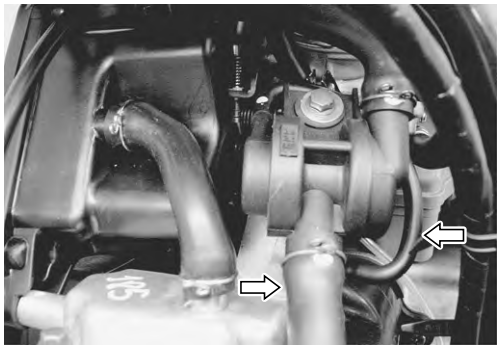
PAIR (AIR SUPPLY) SYSTEM

PAIR HOSES INSPECTION

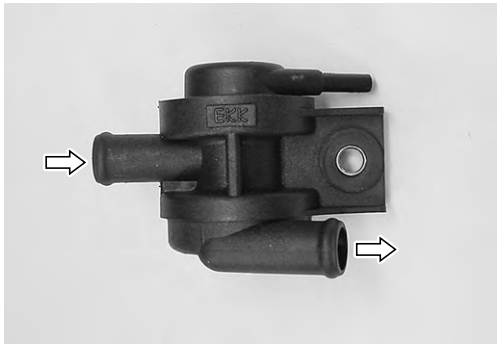


- Remove the frame front cover. (☞5-8)
- Inspect the PAIR hoses for wear or damage.
- Inspect the PAIR hoses are securely connected.

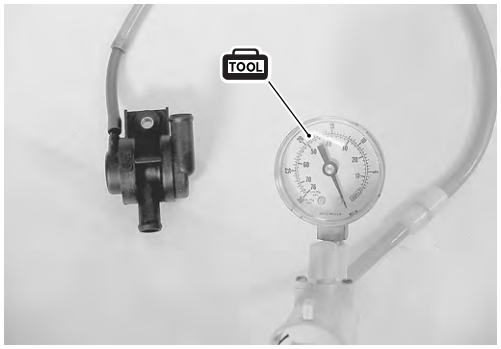
PAIR REED VALVE INSPECTION

- Remove the PAIR reed valve cover. (☞3-20)
- Inspect the reed valve for the carbon deposit.
- If the carbon deposit is found in the reed valve, replace the PAIR reed valve with a new one.

PAIR CONTROL VALVE INSPECTION



- Remove the PAIR control valve. (☞3-11)
- Inspect that air flows through the PAIR control valve air inlet port to the air outlet port. If air does not flow out, replace the PAIR control valve with a new one.



- Connect the vacuum pump gauge to the vacuum port of the control valve as shown in the photograph.
- Apply negative pressure slowly to the control valve and inspect the air flow. If air does not flow out, the control valve and is in normal condition. If the control valve does not function, replace if with a new one.

DATA Negative pressure range: 51 kPa (0.5 mmHg)

TOOL 09917-47010: Vacuum pump gauge

CAUTION

Use a hand operated vacuum pump to prevent the control valvedamage.

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FUEL AND LUBRICATION SYSTEM

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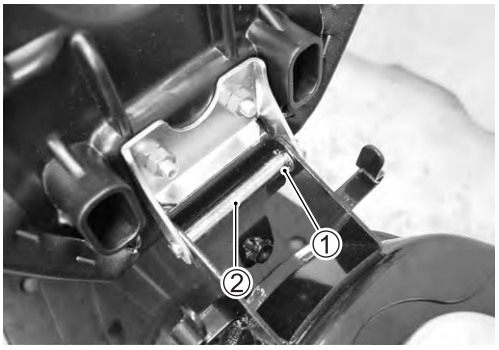
FUEL TANK AND FUEL TAP

REMOVAL

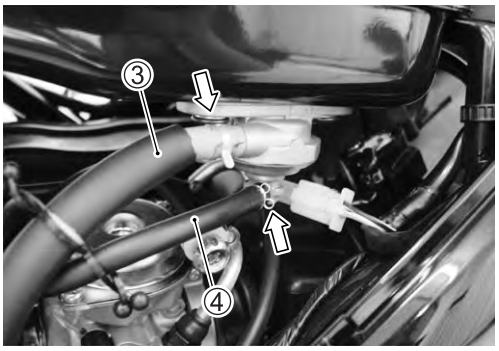
- Remove the frame front cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the E-ring ① and pin ②.



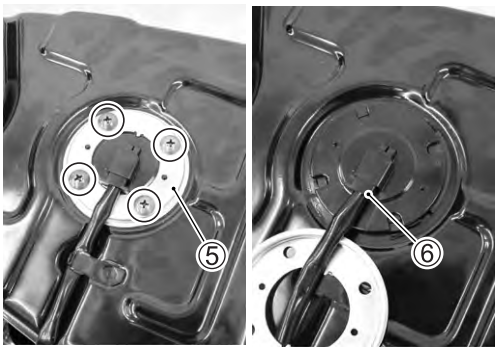
- Disconnect the fuel hose ③ and vacuum hose ④.

⚠ WARNING

Gasoline is highly flammable and explosive.
Keep heat, spark and flame away.



- Remove the retainer ⑤.
- Disconnect the fuel level gauge coupler ⑥.



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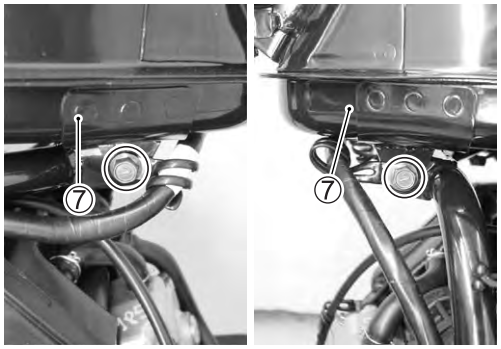
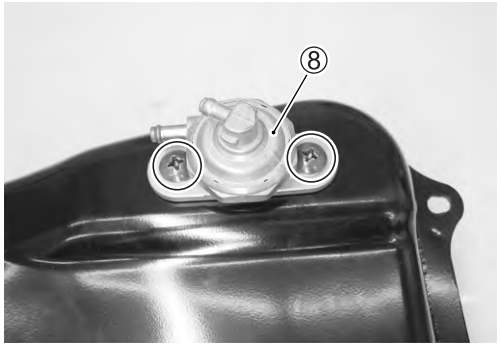
• Remove the fuel tank ⑦.



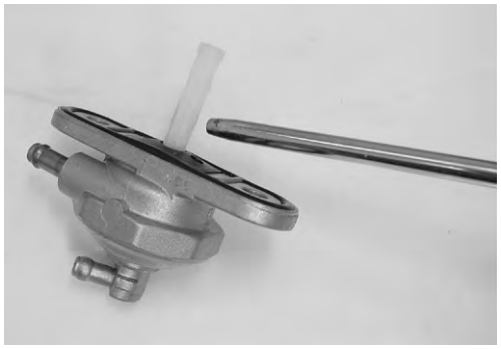
• Remove the fuel tap ⑧.



INSPECTION

FUEL FILTER

If the filter is dirty with sediment or rust, fuel will not flow smoothly and loss in engine power may result. Clean the fuel filter with compressed air. Also check the fuel filter for cracks.



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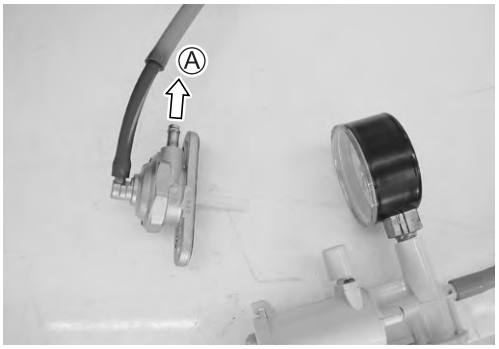
FUEL TAP

Connect the vacuum pump gauge to the vacuum port of the fuel tap. Apply negative pressure to the fuel tap and breathe the fuel outlet port. If air Ⓐ does not flow out, replace the fuel tap with a new one.



DATA Specified vacuum: Approx. 4 kPa

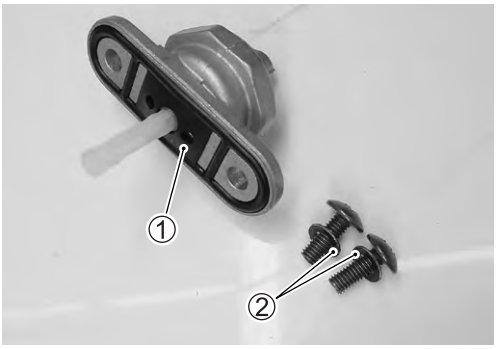
TOOL 09917-47010: Vacuum pump gauge

CAUTION

Use a hand operated vacuum pump. Do not apply high negative pressure to prevent the fuel tap damage.

REMOUNTING

Remount the fuel tank and fuel valve in the reverse order of removal.



⚠ WARNING

Replace the removed gasket ① and seal washers ② with new ones to prevent leakage of fuel.

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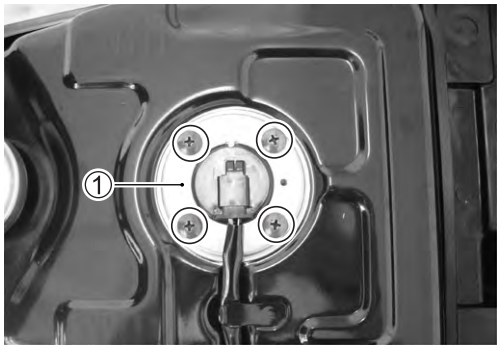
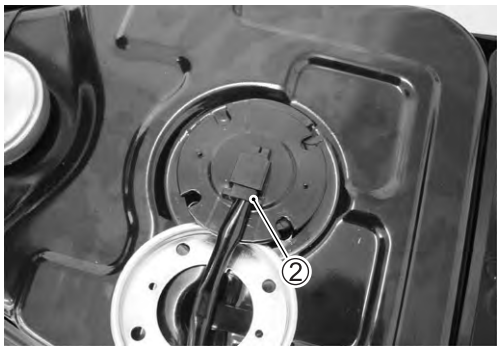
FUEL LEVEL GAUGE

REMOVAL

- Open the seat. (☞5-8)
- Remove the retainer ①.



- Disconnect the fuel level gauge coupler ②.



- Remove the rubber cushion ③.
- Remove the fuel level gauge ④.

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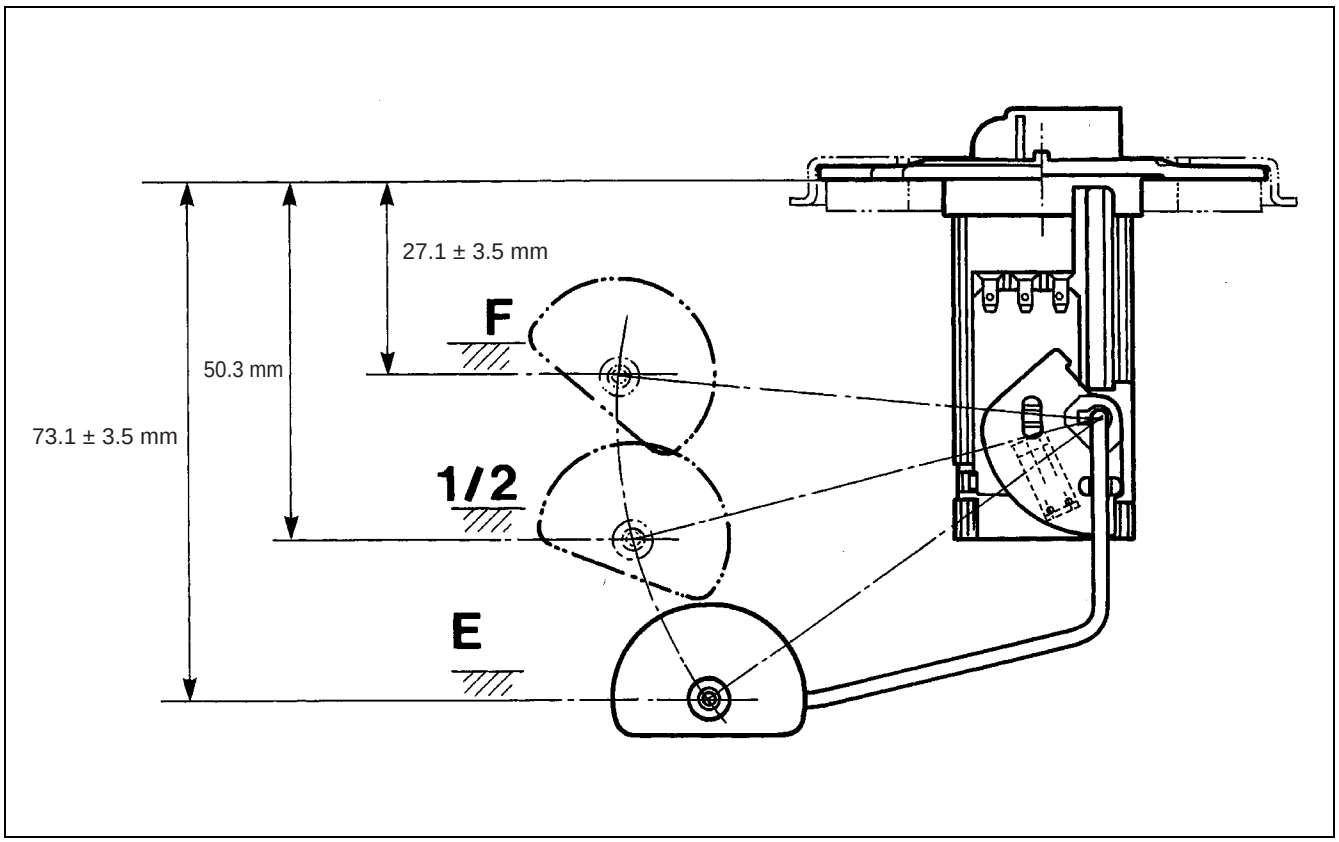
INSPECTION

Measure resistance between the terminals when the float is at the position listed below.

09900-25008: Multi-circuit tester

Float position	Resistance between terminals
Full	4 – 10 Ω
1/2	Approx. 38 Ω
Empty	90 – 100 Ω

If the resistance measured is out of the specification, replace the gauge assembly with a new one.



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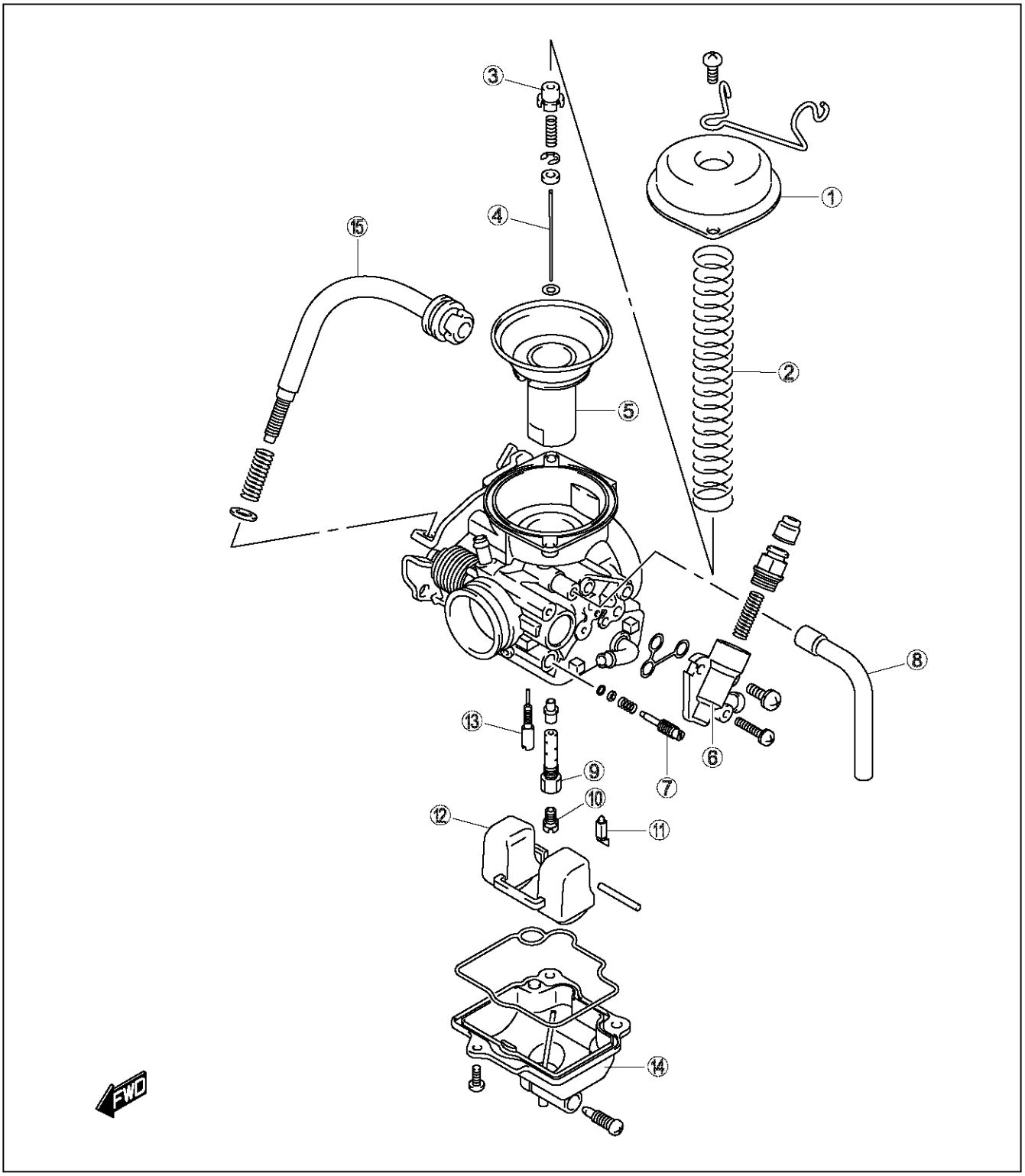
CARBURETOR
CONSTRUCTION



①	Top cap	⑥	Starter body	⑪	Needle valve
②	Spring	⑦	Pilot screw	⑫	Float
③	Holder	⑧	Air vent hose	⑬	Pilot jet
④	Jet needle	⑨	Needle jet holder	⑭	Float chamber
⑤	Piston valve assembly	⑩	Main jet	⑮	Throttle stop screw

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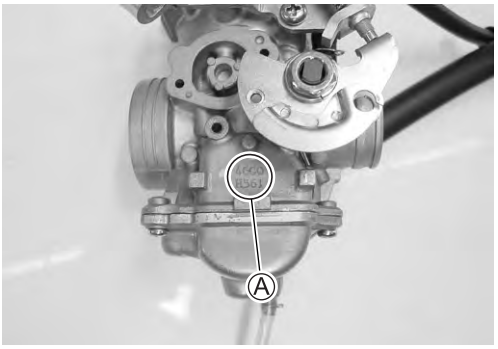
SPECIFICATIONS

ITEM		SPECIFICATION
Carburetor type		MIKUNI BS26
Bore size		ϕ 26 mm
I.D. No.		46G0
Idle rpm		1 600 ± 100 rpm
Float height		XX.X ± X.X mm
Main jet	(M.J.)	#95
Jet needle	(J.N.)	4CJ11-2
Needle jet	(N.J.)	E-3M
Throttle valve	(Th.V.)	105
Pilot jet	(P.J.)	#15
Pilot screw	(P.S.)	2-1/4 turns back
Throttle cable play		2.0 – 4.0 mm

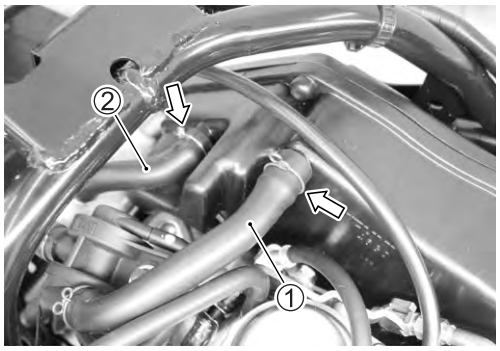
I.D. LOCATION

The carburetor has I.D. Number Ⓐ stamped on the carburetor body.



REMOVAL

- Remove the frame front cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the fuel tank. (☞4-3)
- Disconnect the PAIR hose ① and PCV hose ②.



- Remove the air cleaner mounting bolts.
- Slightly move the air cleaner box backward.

- Loosen the clamp screws.

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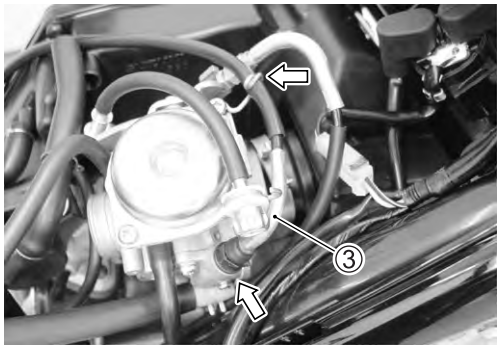
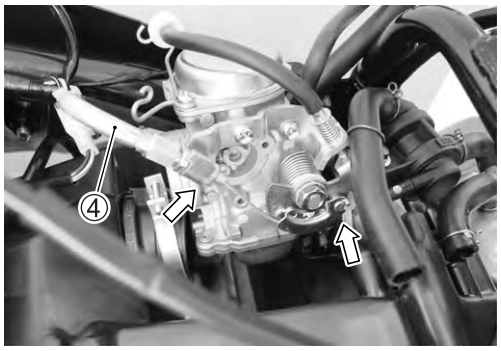
- Disconnect the starter cable ③.

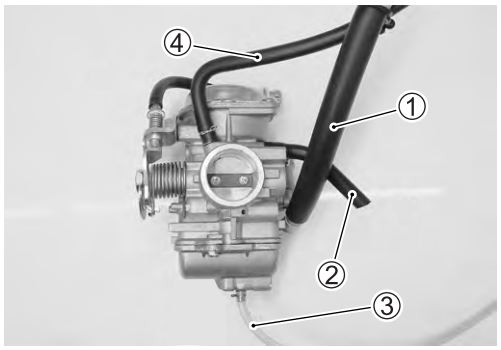


- Disconnect the throttle cable ④.
- Remove the carburetor.

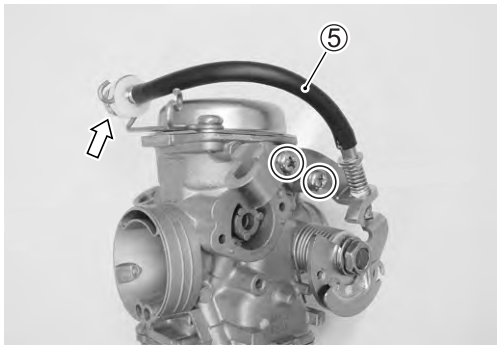


DISASSEMBLY

- Disconnect the fuel hose ①, air vent hose ②, fuel drain hose ③ and vacuum hose ④.



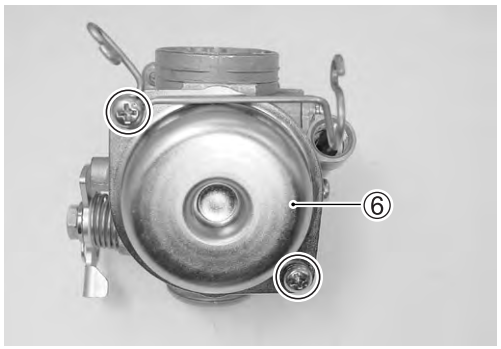
- Remove the throttle stop screw ⑤.



- Remove the carburetor top cap ⑥.

CAUTION

Do not blow the carburetor body with compressed air, before removing the diaphragm. It may cause a damage to the diaphragm.



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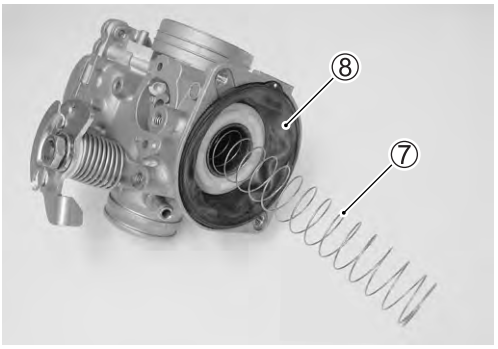
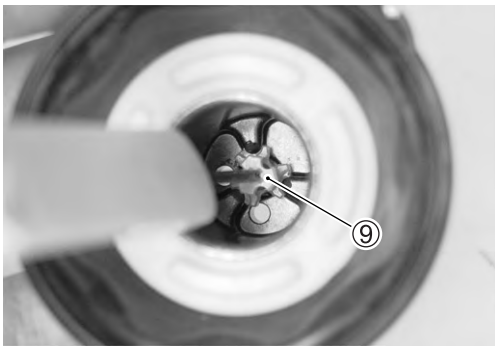
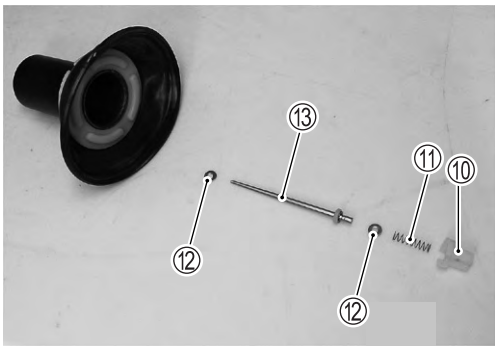
- Remove the spring ⑦ and diaphragm ⑧.



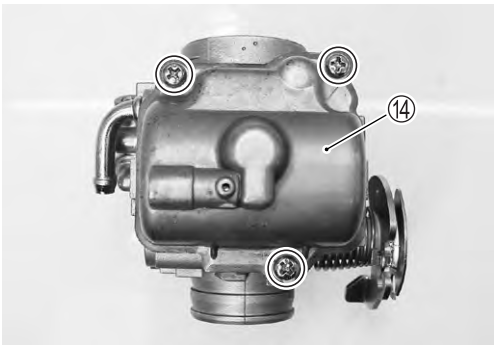
- Remove the holder ⑨ by turning it counterclockwise with a screwdriver.



- Remove the following parts.
  ⑩ Holder
  ⑪ Spring
  ⑫ Washers
  ⑬ Jet needle



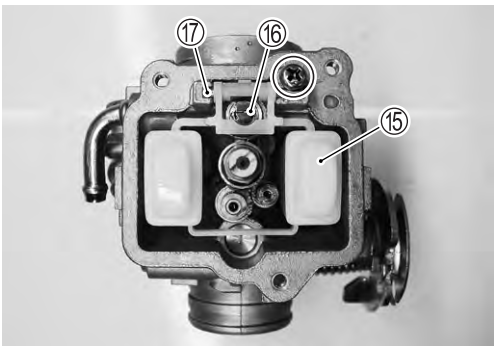
- Remove the float chamber body ⑭.



- Remove the float assembly ⑮ and needle valve ⑯ by removing the pin ⑰.

CAUTION

Do not use a wire for cleaning the valve seat.



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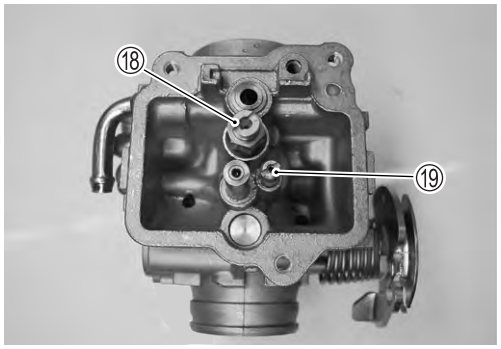
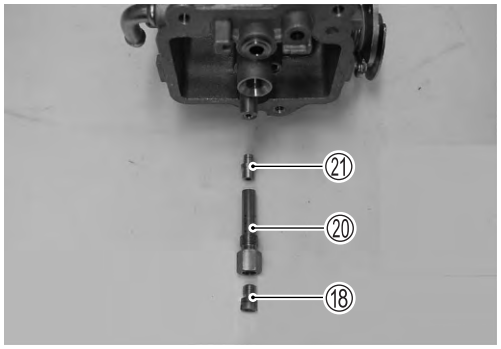
- Remove the following parts.
  ⑱ Main jet
  ⑲ Pilot jet
  ⑳ Needle jet holder
  ㉑ Needle jet

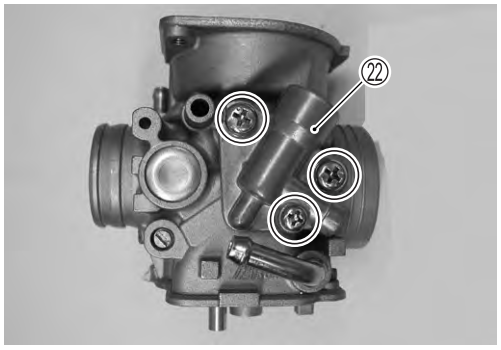
CAUTION

Do not use a wire for cleaning of passage and jets.



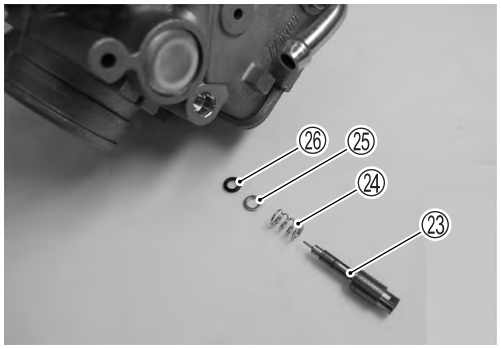


- Remve the starter body ㉒.

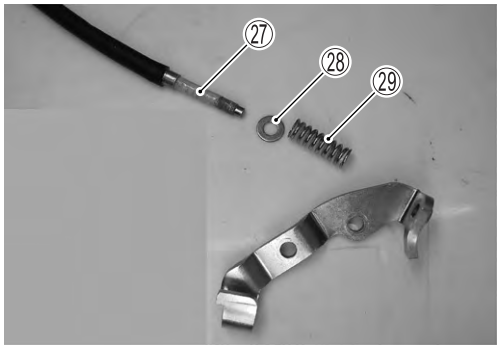


- Remove the pilot screw ㉓, spring ㉔, washer ㉕ and O-ring ㉖.

NOTE:
Before removing the pilot screw ㉓, determine the setting by slowly turning it clockwise and count the number of turns required to lightly seat the screw. This counted number is important when reassembling pilot screw to original position.



- Remove the throttle stop screw ㉗, washer ㉘ and spring ㉙.



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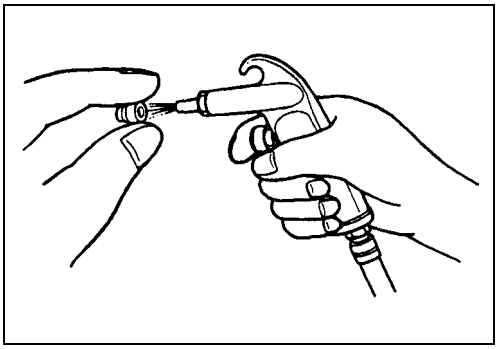
CARBURETOR CLEANING



⚠ WARNING

Some carburetor cleaning chemicals, especially dip-type soaking solutions, are very corrosive and must be handled carefully. Always follow the chemical manufacturer's instructions on proper use, handling and storage.

- Clean all jets with a spray-type carburetor cleaner and dry them using compressed air.
- Clean all circuits of the carburetor thoroughly – not just the perceived problem area. Clean the circuits in the carburetor body with a spray-type cleaner and allow each circuit to soak, if necessary, to loosen dirt and varnish. Blow the body dry using compressed air.

CAUTION

Do not use a wire to clean the jets or passageways. A wire can damage the jets and passageways. If the components cannot be cleaned with a spray cleaner it may be necessary to use a dip-type cleaning solution and allow them to soak. Always follow the chemical manufacturer's instructions for proper use and cleaning of the carburetor components.

- After cleaning, reassemble the carburetor with new O-ring and gaskets.

CARBURETOR JET INSPECTION

Check the following items for damage or clogging.

* Pilot jet
* Main jet
* Main air jet
* Pilot air jet
* Needle valve
* Needle jet
* Needle jet holder
* Needle jet air bleeding hole
* Diaphragm
* Pilot outlet and by-pass ports
* Float
* Starter passage
* Pilot screw

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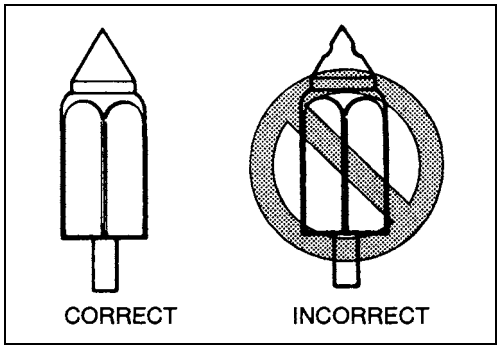
NEEDLE VALVE INSPECTION

If foreign matter is caught between the valve seat and the needle valve, the gasoline will continue flowing and cause it to overflow. If the valve seat and needle valve are worn beyond the permissible limits, similar trouble will occur. Conversely, if the needle valve sticks, the gasoline will not flow into the float chamber. Clean the float chamber and float parts with gasoline. If the needle valve is worn as shown in the illustration, replace it together with a valve seat. Clean the fuel passage of the mixing chamber with compressed air.

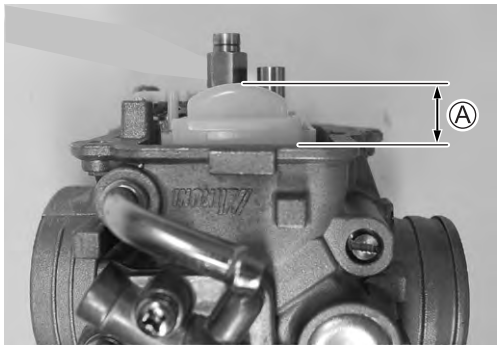


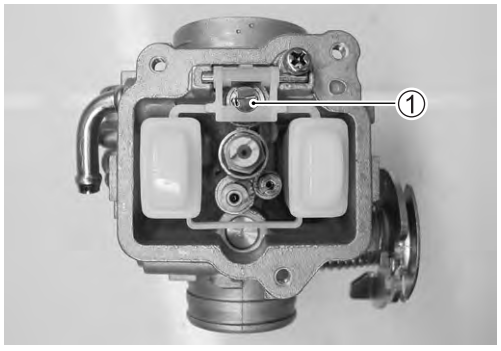
FLOAT HEIGHT ADJUSTMENT

To check the float height, invert the carburetor body, with the float arm kept free, measure the height Ⓐ while the float arm is just in contact with needle valve by using venier calipers. Bend the tongue ① as necessary to bring the height Ⓐ to this value.

DATA Float height Ⓐ: XX.X ± X.X mm

TOOL 09900-20102: Vernier calipers



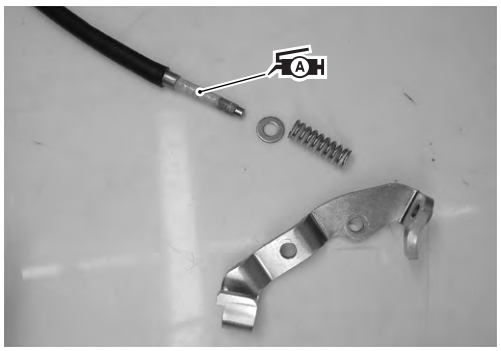


REASSEMBLY AND REMOUNTING

Reassemble and remount the carburetor in the reverse order of disassembly and removal. Pay attention to the following points:

- Apply SUZUKI SUPER GREASE “A” to thread part of the throttle stop screw, then install the throttle stop screw to the carburetor.

A 99000-25010: SUZUKI SUPER GREASE “A”



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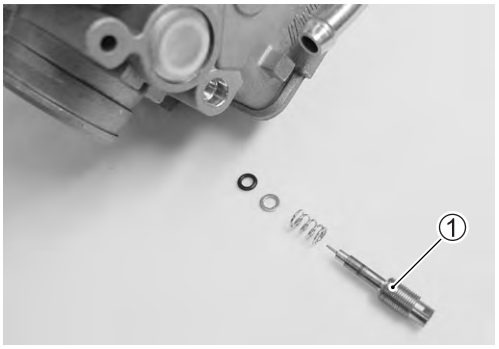
• Install the pilot screw ①.

NOTE:
Turn in the pilot screw ① until it lightly seats, then back it out the counted number of turns. (☞4-11)

CAUTION

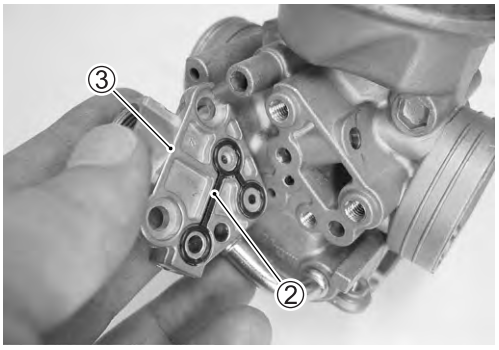
Replace the removed O-ring with a new one.



• Install the gasket ② to the starter body ③. (☞4-11)

CAUTION

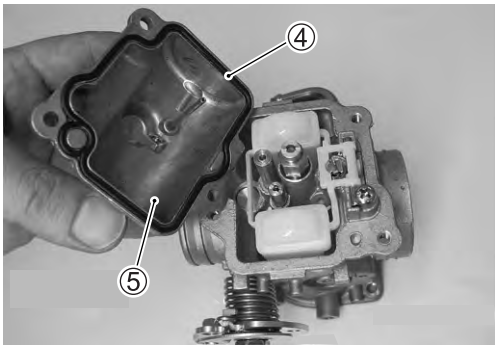
Replace the removed gasket with a new one.



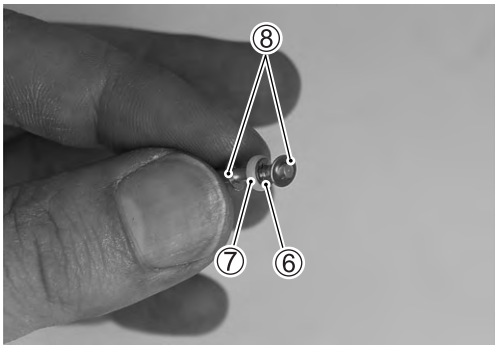
• Install the gasket ④ to the float chamber body ⑤. (☞4-10)

CAUTION

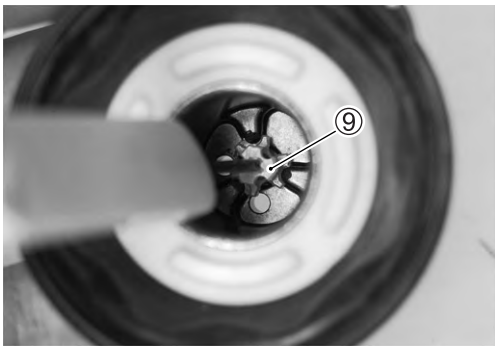
Replace the removed gasket with a new one.



• Reassemble the clip ⑥, ring ⑦ and washers ⑧. (☞4-10)



• Fit the jet needle assembly and spring to the piston valve.
• Install the holder ⑨ by turning it clockwise with a screwdriver.



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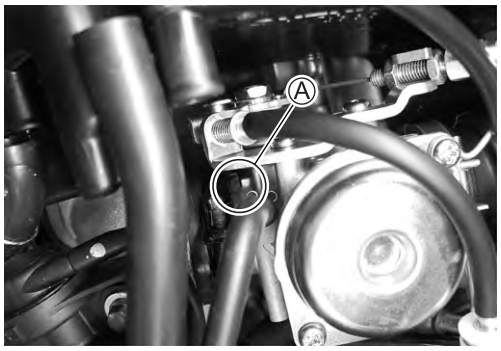
- Position the diaphragm to the carburetor body properly.

- Align the lug on the carburetor with the intake pipe cutout Ⓐ.



- Adjust the following items to the specification.
  * Idling adjustment..... ☞2-10
  * Throttle cable play..... ☞2-10

LUBRICATION SYSTEM

OIL PRESSURE

☞2-21

OIL FILTER

☞2-9

OIL SUMP FILTER

☞3-57

OIL PUMP

☞3-37

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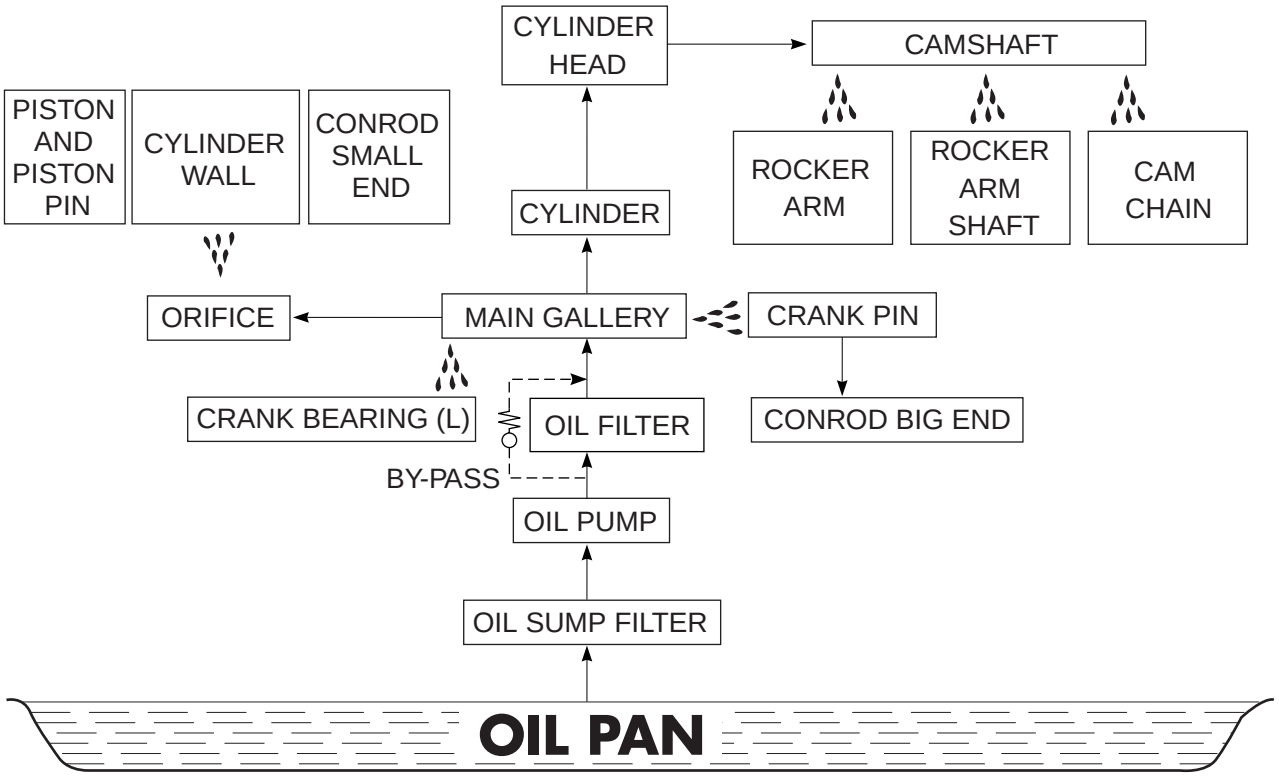
ENGINE LUBRICATION SYSTEM CHART



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CHASSIS

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EXTERIOR PARTS

FASTENER REMOVAL AND INSTALLATION

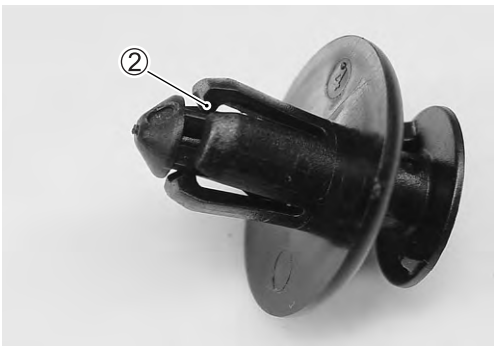
REMOVAL

- Turn the head of fastener center piece ①.
- Pull out the fastener.

INSTALLATION

- Let the center piece stick out toward the head so that the pawls ② close.
- Insert the fastener into the installation hole.

NOTE:
To prevent the pawl ② from damage, insert the fastener all the way into the installation hole.



- Push in the head of center piece until it becomes flush with the fastener outside face.

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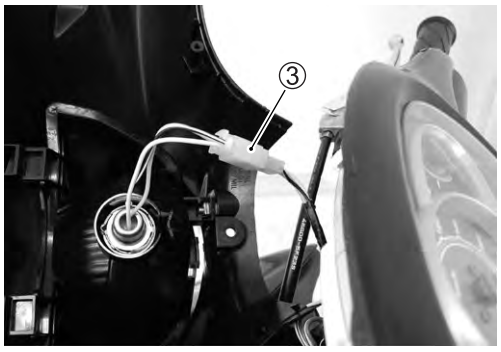
REMOVAL

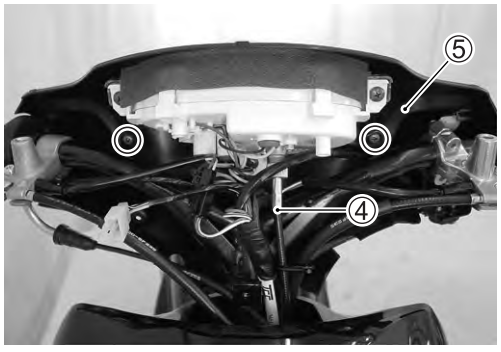
HANDLEBAR COVERS

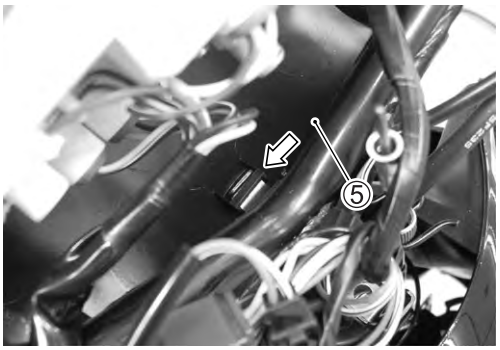
- Remove the rear view mirrors ①.
- Remove the front handlebar cover ②.

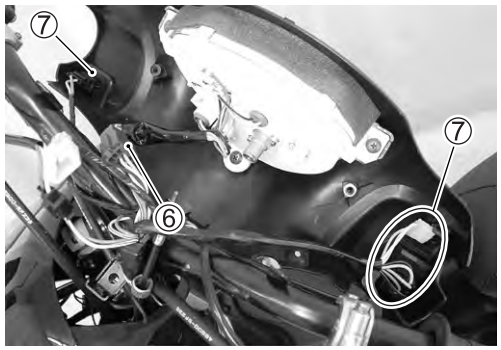
- Disconnect the headlight coupler ③.



- Disconnect the speedometer cable ④ and remove the rear handlebar cover ⑤.
- Disconnect the speedometer coupler ⑥ and right and left handlebar switch couplers ⑦.







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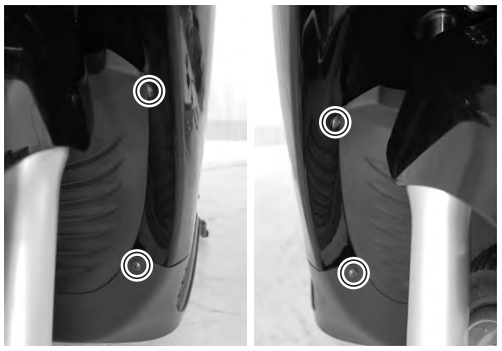
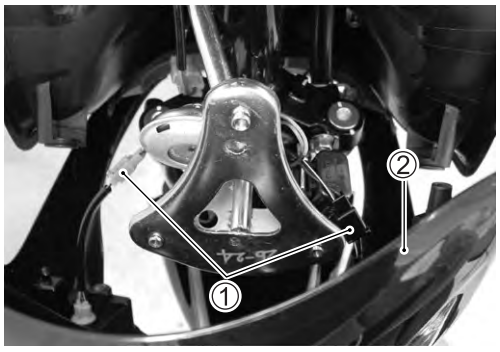
FRONT LEG SHIELD

- Remove the front leg shield mounting screws.

☆: Hooked part

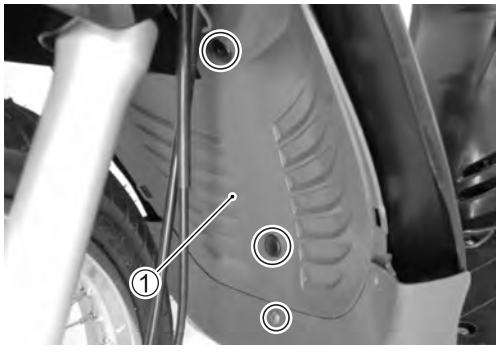


- Disconnect the front turn signal couplers ①.
- Remove the front leg shield ②.



FRONT LEG LOWER SHIELD

- Remove the front leg shield. (☞Abobe)
- Remove the front leg lower shield ①.



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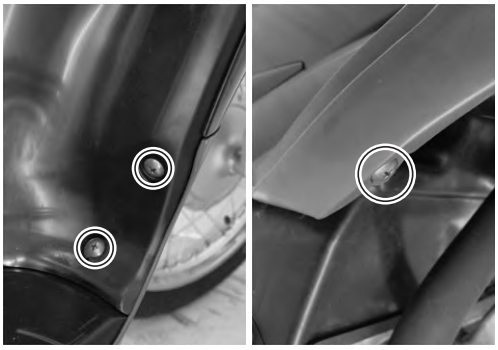
LEG LOWER SHIELD

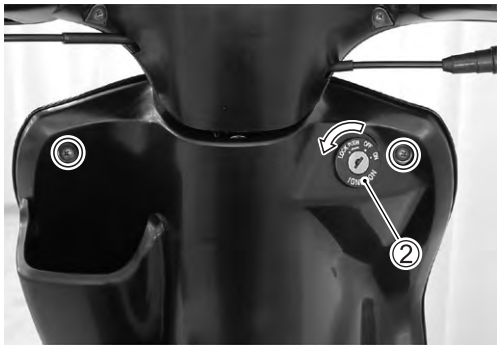
- Remove the leg lower shield.



LEG SHIELD COVER

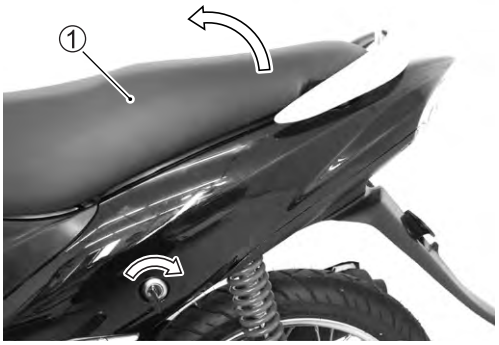
- Remove the frame front cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the pillion rider handle. (☞5-9)
- Remove the frame cover assembly. (☞5-10)
- Remove the leg shield hook ①.

- Remove the ignition switch holder ②.
- Remove the leg shield cover mounting screws.

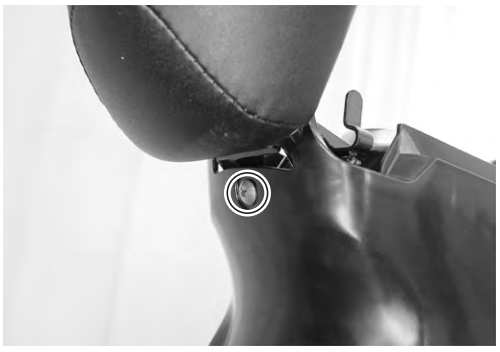


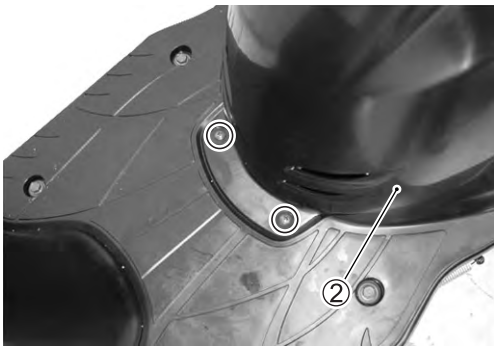
FRAME FRONT COVER

- Open the seat ① using the ignition key.



- Remove the frame front cover ②.





LEG REAR SHIELD

- Remove the frame front cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the pillion rider handle. (☞5-9)
- Remove the frame cover assembly. (☞5-10)
- Remove the leg rear shield ①.

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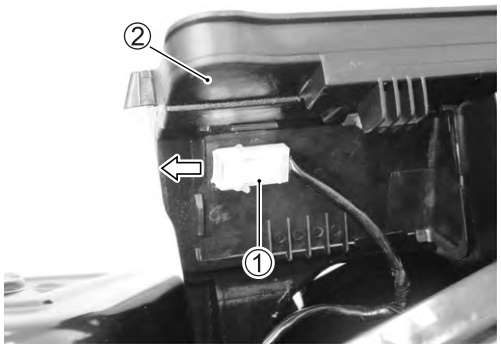
LUGGAGE BOX

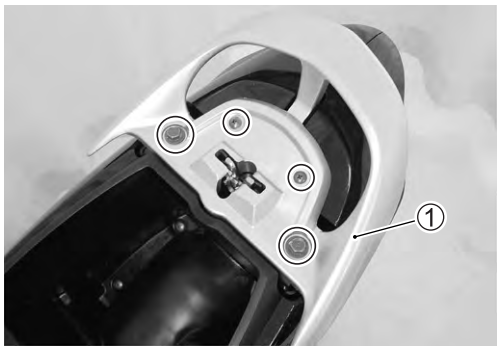
- Open the seat. (☞5-8)
- Remove the luggage box mounting screws.

- Remove the fuse box ① from luggage box ②.
- Remove the luggage box ②.



PILLION RIDER HANDLE

- Remove the pillion rider handle ①.



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FRAME COVER (R&L)

- Remove the frame front cover. (☞5-8)
- Remove the luggage box. (☞5-9)
- Remove the pillion rider handle. (☞5-9)
- Remove the frame cover assembly mounting screws.

☆: Hooked part

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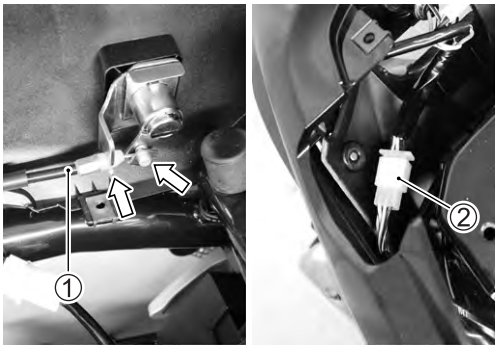
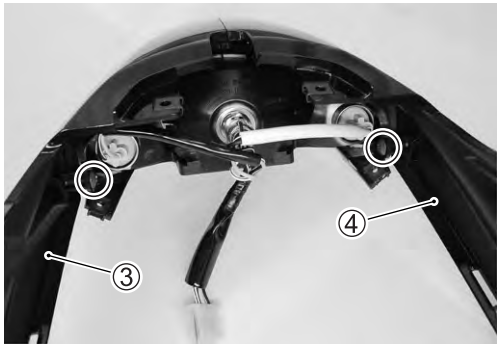
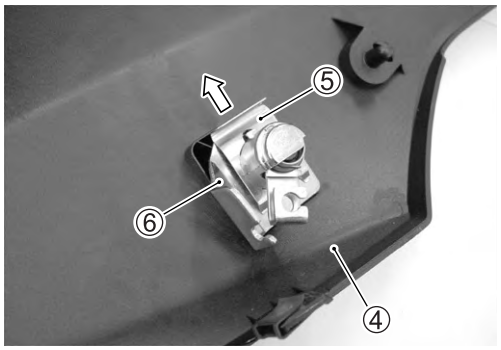
- Disconnect the seat lock cable ①.
- Disconnect the rear combination light coupler ②.
- Remove the frame cover assembly.



- Remove the right frame cover ③ and left frame cover ④.



- Pull the ignition key stopper plate ⑤.
- Remove the ignition key ⑥ from left frame cover ④.



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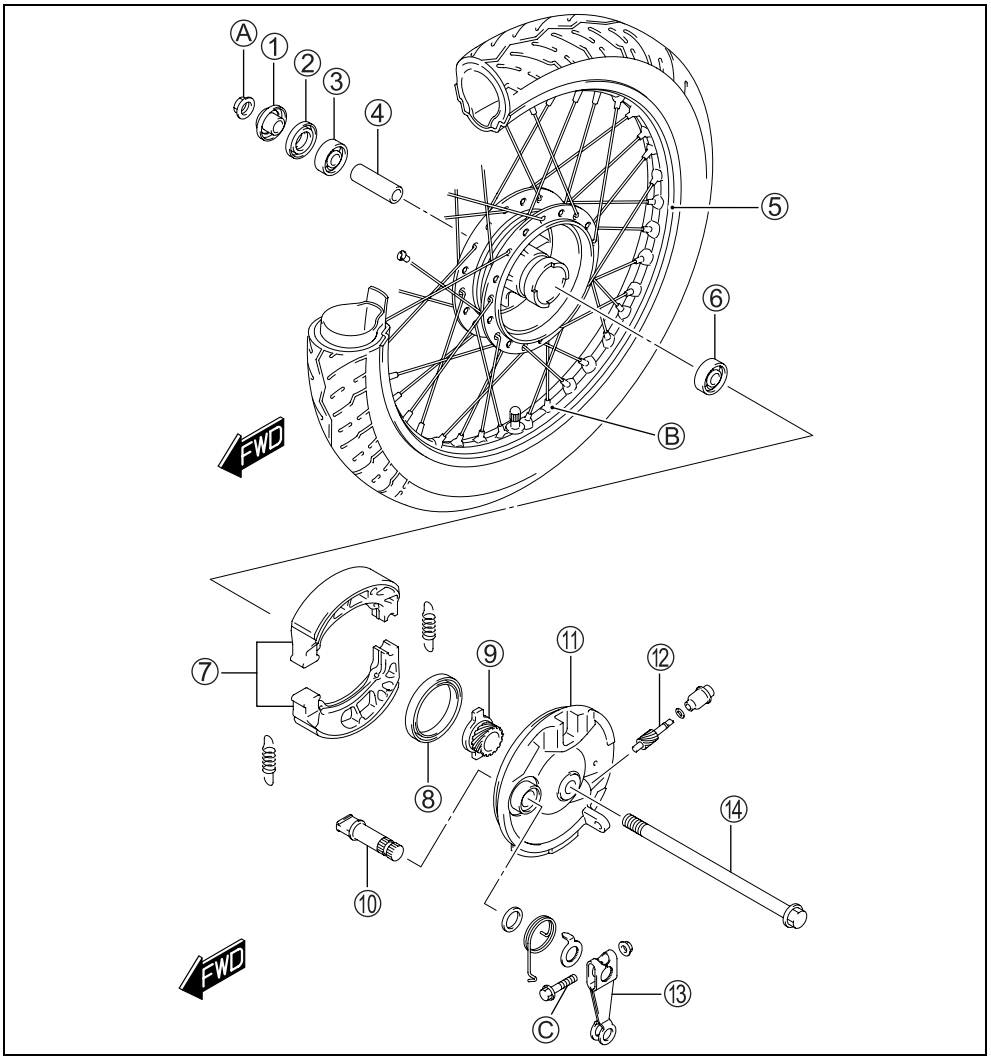
FRONT WHEEL AND FRONT BRAKE (UY125)

①	Collar
②	Dust seal
③	Bearing
④	Front wheel spacer
⑤	Front wheel
⑥	Bearing
⑦	Front brake shoe
⑧	Dust seal
⑨	Speedometer drive gear
⑩	Front brake camshaft
⑪	Front brake panel
⑫	Speedometer driven gear
⑬	Front brake cam lever
⑭	Front axle
Ⓐ	Front axle nut
Ⓑ	Spoke nipple
Ⓒ	Front brake cam lever bolt

ITEM	N·m	kgf-m
Ⓐ	42	4.2
Ⓑ	4.5	0.45
Ⓒ	8	0.8



REMOVAL

- Remove the speedometer cable and front brake cable.

- Remove the axle nut.
- Support the motorcycle with the jack or wooden block.
- Remove the front axle and front wheel with front brake.

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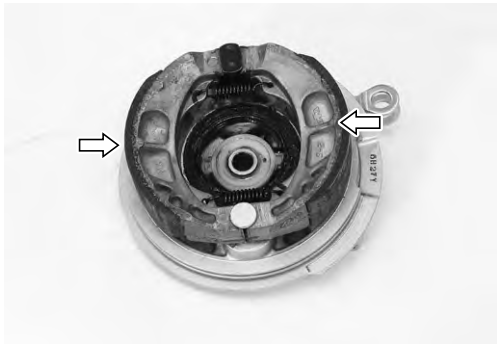
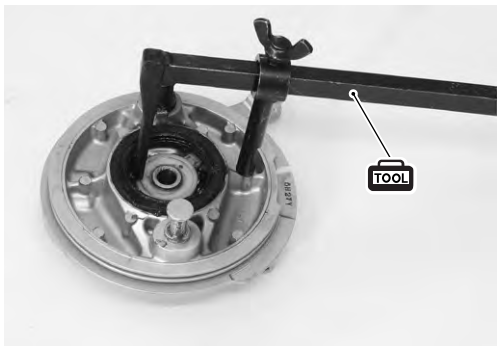
• Remove the front brake panel ①.

• Remove the brake shoes.

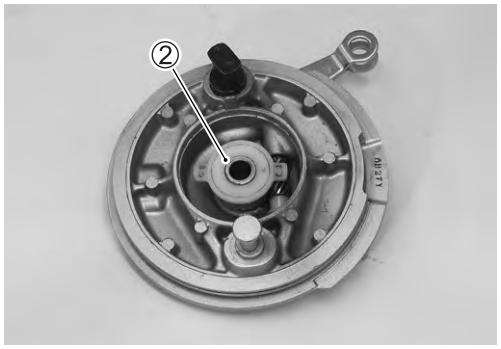


• Remove the dust seal with the special tool.

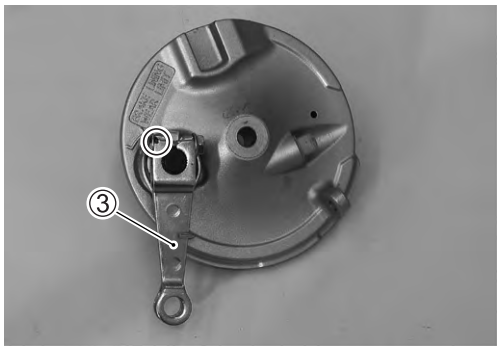
TOOL **09913-50121: Oil seal remover**



• Remove the speedometer drive gear ②.



• Remove the brake cam lever ③.



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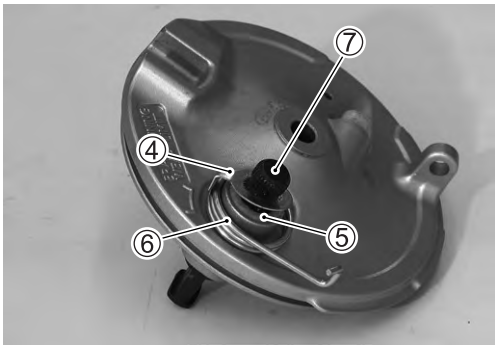
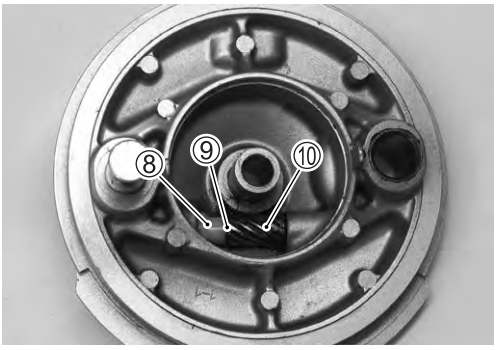
- Replace the indicator plate ④, dust seal ⑤, spring ⑥ and brake camshaft ⑦.



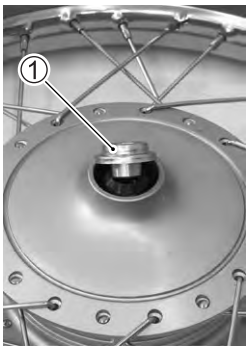
- Pull out the pinion outer bush ⑧.
- Remove the washer ⑨ and pinion gear ⑩.

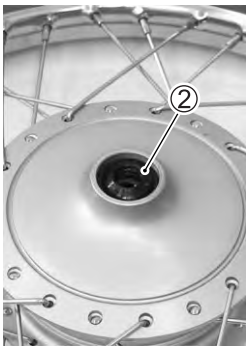


INSPECTION AND DISASSEMBLY

DUST SEAL

- Remove the spacer ①.
- Inspect the dust seal ② for damage. If any defects are found, replace the dust seal with a new one.

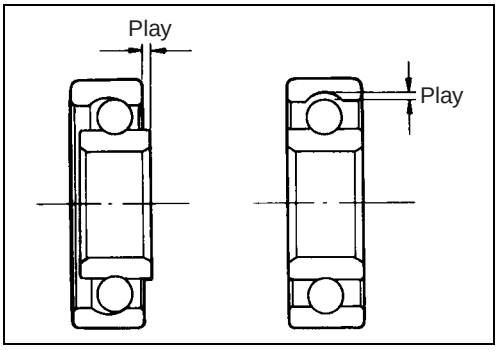




WHEEL BEARING

Inspect the play of wheel bearings by hand while they are in the wheel.

Rotate the inner race by hand to inspect for abnormal noise and smooth rotation. If any abnormal noise occurs, or rough movement is noted, replace the wheel bearings with new ones.



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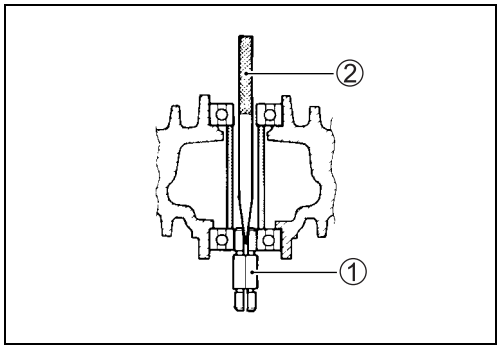
Remove the wheel bearings as follows:
- Insert the bearing remover attachment ① into the wheel bearing.
- Insert the wedge bar ② from the opposite side and lock it into the slit of the bearing remover attachment.
- Drive out the wheel bearing by striking the wedge bar.

TOOL 09941-50111: Bearing remover

CAUTION

Replace the removed bearings with new ones.

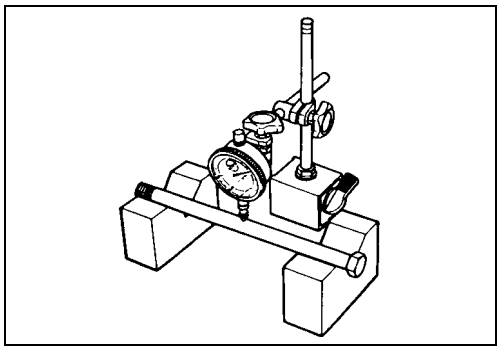


FRONT AXLE

Measure the front axle runout using the dial gauge. If the runout exceeds the service limit, replace the front axle with a new one.

DATA Front axle runout: Service Limit: 0.25 mm

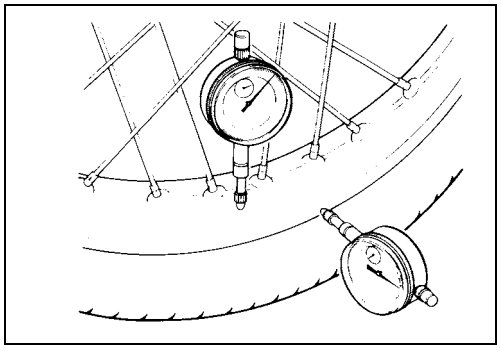
TOOL 09900-20607: Dial gauge (1/100 mm)
09900-20701: Magnetic stand
09900-21304: V-block set



WHEEL RIM

Make sure that the wheel rim runout does not exceed the service limit when checked as shown. An excessive runout is usually due to worn or loose wheel bearings and can be corrected by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel with a new one.

DATA Wheel rim runout (axial and radial)
Service Limit: 2.0 mm



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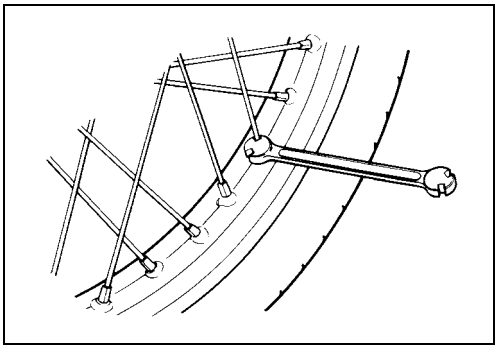
SPOKE NIPPLE

Make sure that all nipples are tight. If necessary tighten them with a spoke nipple wrench.

Spoke nipple: 4.5 N·m (0.45 kgf-m)

09940-60113: Spoke nipple wrench



TIRE..... ☞2-15

BRAKE SHOE

Inspect the brake shoes wear or damage. If any wear or damages are found, replace the brake shoes as a set.

CAUTION

Replace the brake shoes as a set, otherwise braking performance will be adversely affected.

BRAKE DRUM

Inspect the brake drum and measure the brake drum I.D. to determine the extent of wear. If the measurement exceeds the service limit, replace the brake drum with a new one.

Brake drum I.D.: Service Limit: 110.7 mm

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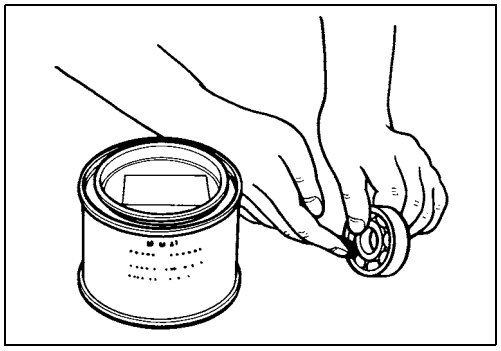
REASSEMBLY AND INSTALLATION

Reassemble and install the front wheel and front brake in the reverse order of removal and disassembly. Pay attension to the following points:

WHEEL BEARING

- Apply SUZUKI SUPER GREASE "A" to the wheel bearings.

99000-25010: SUZUKI SUPER GREASE "A"

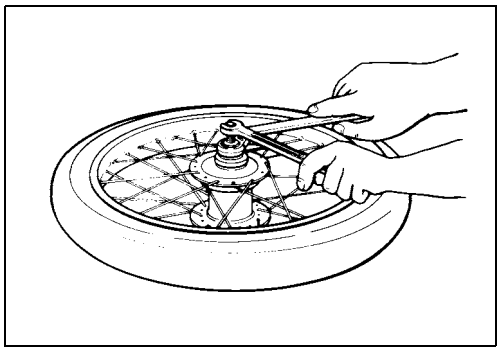


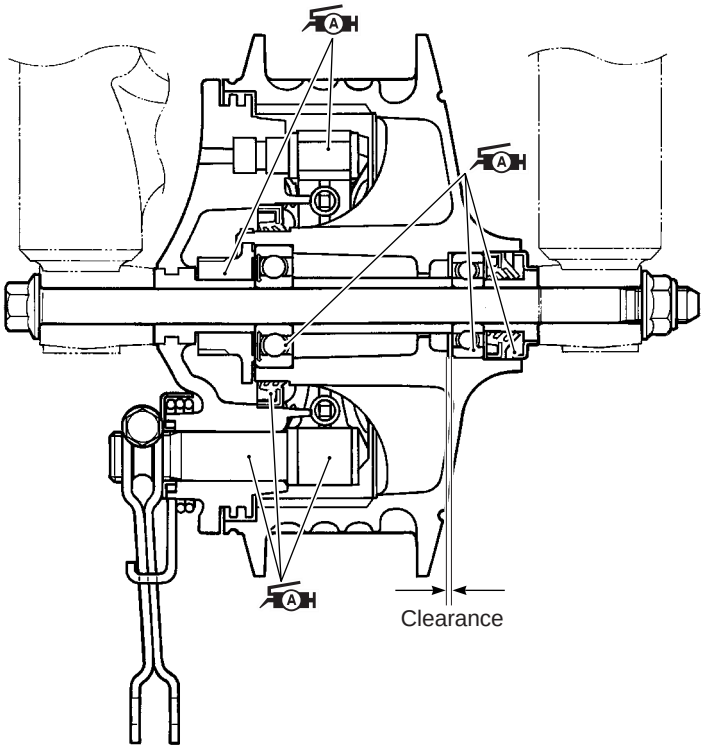
- Install the wheel bearings using the special tool.

09924-84521: Bearing installer set

CAUTION

*** First, install the left wheel bearing, and then install the right wheel bearing.**
*** The sealed cover on the bearing must face out.**





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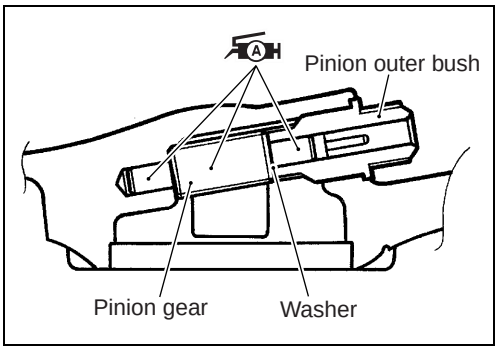
- Install the pinion gear ①, washer ② and pinion outer bush ③.
- Apply SUZUKI SUPER GREASE “A” to the gear and the inside of gear box.

99000-25010: SUZUKI SUPER GREASE “A”

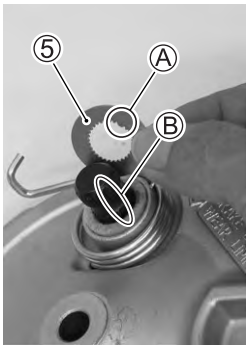


- Apply SUZUKI SUPER GREASE “A” to the camshaft.

99000-25010: SUZUKI SUPER GREASE “A”

- Install the spring ④ into the brake panel hole.
- Install the indicator plate ⑤.

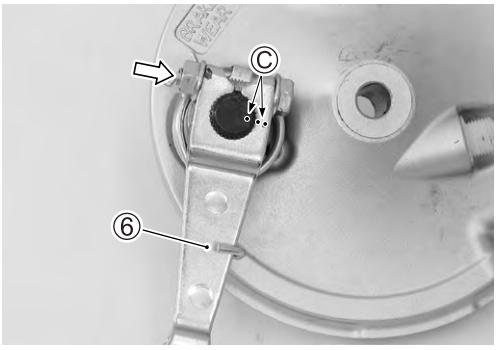
NOTE:
When installing the indicator plate, align the wide spline teeth Ⓐ and Ⓑ.



- Install the brake lever ⑥ and tighten the brake cam lever nut.

NOTE:
Be sure to align the punch marks Ⓒ on the brake cam lever and brake lever.

Brake cam lever nut: 8 N·m (0.8 kgf-m)



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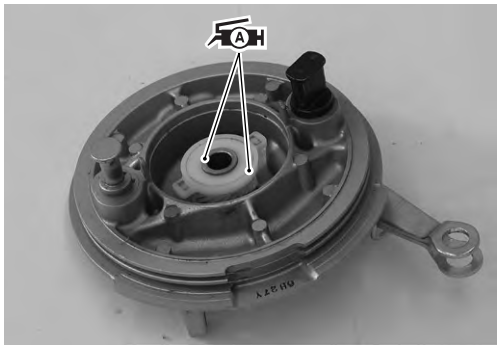
- Apply SUZUKI SUPER GREASE “A” to the inside and outside of drive gear.

99000-25010: SUZUKI SUPER GREASE “A”

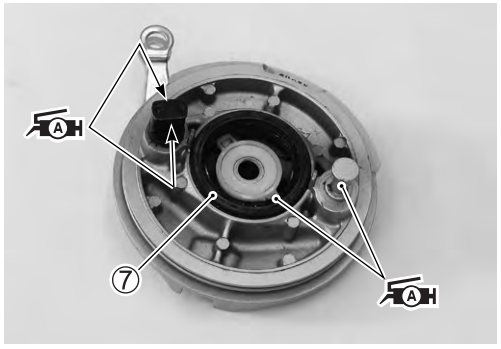


- Install the new dust seal ⑦.
- Apply SUZUKI SUPER GREASE “A” to the camshaft, pin and lip of dust seal before installing the brake shoes.

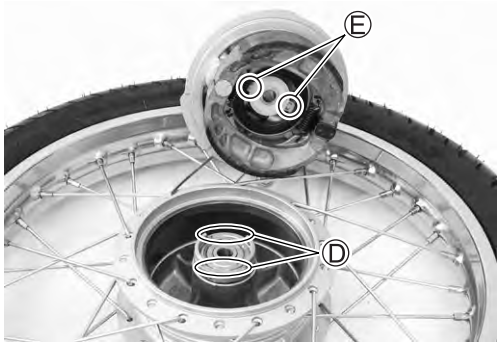
99000-25010: SUZUKI SUPER GREASE “A”

⚠ WARNING

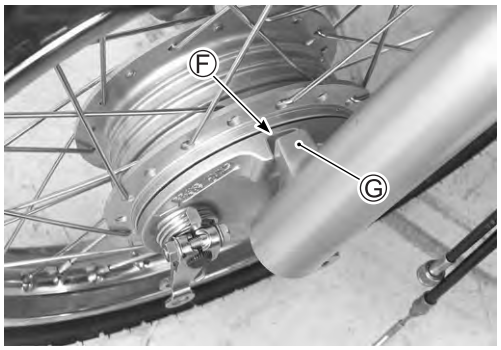
Be careful not to apply too much grease to the camshaft and pin. If grease gets on the lining, brake slipage will result.



NOTE:
When installing the brake panel, align groove Ⓓ on the wheel hub with two drive pawls Ⓔ on speedometer drive gear.



Align the groove Ⓕ of the front brake panel with the lug Ⓖ of the front fork.



- Tighten the front axle nut to the specified torque.

Front axle nut: 42 N·m (4.2 kgf-m)

- Install the speedometer cable and front brake cable certainly.
- Adjust the front brake lever play. (☞2-12)

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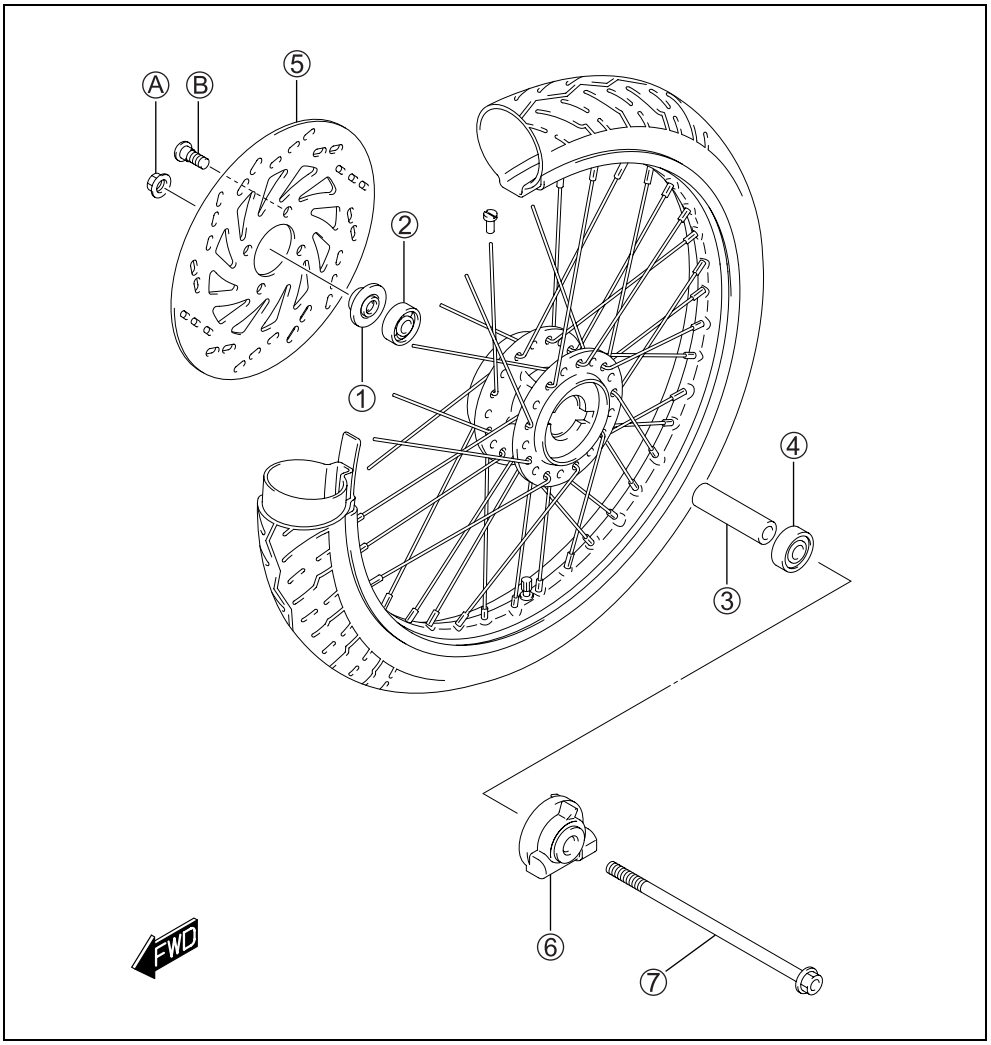
FRONT WHEEL (UY125S)

①	Spacer
②	Bearing
③	Front axle spacer
④	Bearing
⑤	Brake disc
⑥	Speedometer gearbox
⑦	Front axle
Ⓐ	Front axle nut
Ⓑ	Brake disc bolt

ITEM	N·m	kgf-m
Ⓐ	42	4.2
Ⓑ	23	2.3

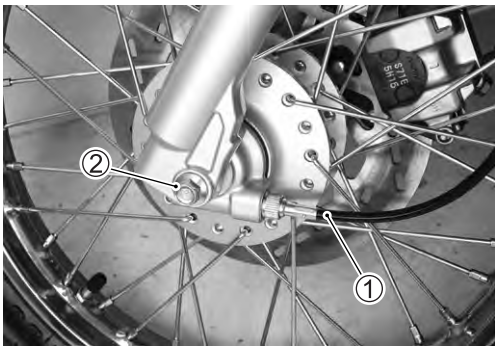


REMOVAL

- Disconnect the speedometer cable ①.
- Remove the front axle nut ②.
- Raise the front wheel off the ground with a jack or wooden block.
- Remove the front axle and front wheel.

CAUTION

Do not operate the brake lever after front wheel removal.



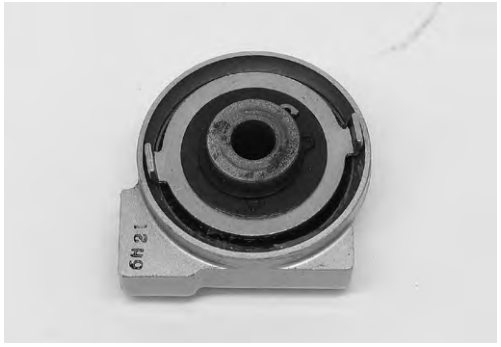
• Remove the brake disc by removing its bolts.

INSPECTION AND DISASSEMBLY

WHEEL BEARING..... ☞**5-14**
FRONT AXLE ..... ☞**5-15**
WHEEL ..... ☞**5-15**
TIRE..... ☞**2-15**

SPEEDOMETER GEARBOX

Turn the speedometer gear and check to see that the gear turns smoothly together with the speedometer pinion.



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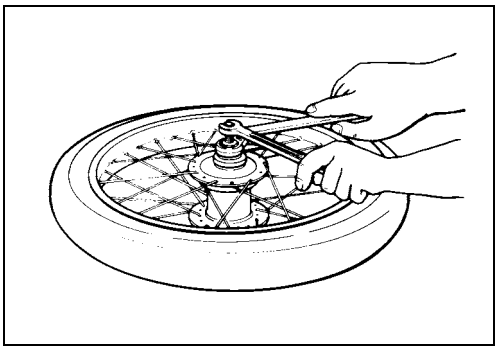
REASSEMBLY AND INSTALLATION

Reassemble and install the front wheel in the reverse order of removal and disassembly. Pay attention to the following points:



WHEEL BEARING

- Apply SUZUKI SUPER GREASE “A” to the wheel bearings. (☞5-17)

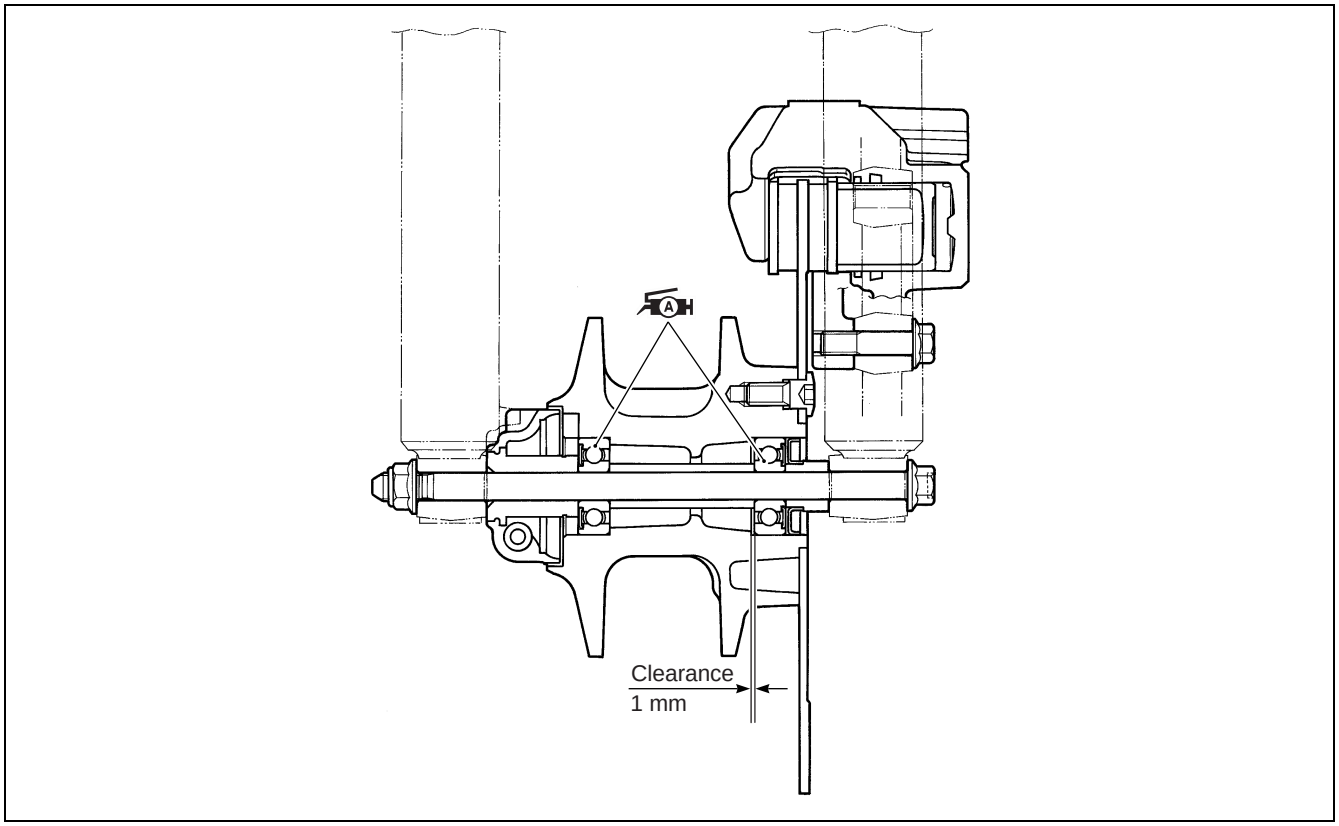
99000-25010: SUZUKI SUPER GREASE “A”

- Install the wheel bearings using the special tool.

09924-84521: Bearing installer set

CAUTION

*** First, install the left wheel bearing, and then install the right wheel bearing.**
*** The sealed cover on the bearing must face out.**



BRAKE DISC

- Apply THREAD LOCK SUPER to the brake disc bolts.

99000-32130: THREAD LOCK SUPER “1360”

- Tighten the brake disc bolts to the specified torque.

Brake disc bolt: 23 N·m (2.3 kgf-m)

WARNING

Keep the brake disc clean, free front dirt and grease.

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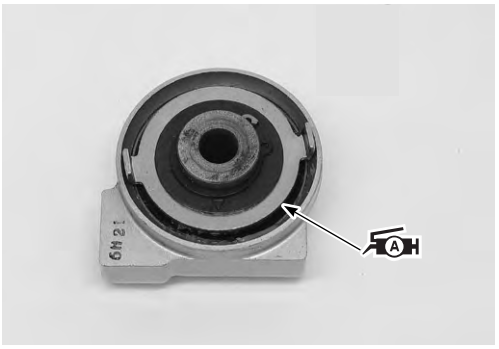
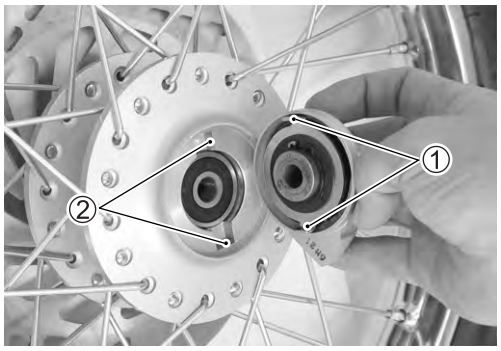
SPEEDOMETER GEARBOX

- Apply SUZUKI SUPER GREASE "A" to the speedometer gearbox.

99000-25010: SUZUKI SUPER GREASE "A"



- Align the lugs ① on the speedometer gearbox with the recesses ② on the front wheel.

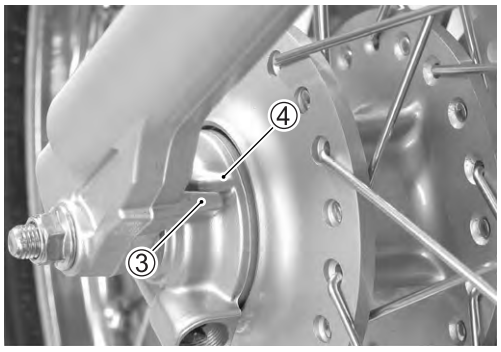


FRONT WHEEL

- Make sure that the stopper ③ on the front fork and the speedometer gearbox protrusion ④ are installed as shown.

CAUTION

When installing the front wheel, position the brake disc between the brake pads. Be careful not to damage the brake pads.



- Tighten the front axle nut to the specified torque.

Front axle nut: 42 N·m (4.2 kgf-m)

- Connect the speedometer cable.

NOTE:

** Move the front fork up and down four or five times.*

** After remounting the front wheel, pump the brake lever a few times to check for proper brake operation.*

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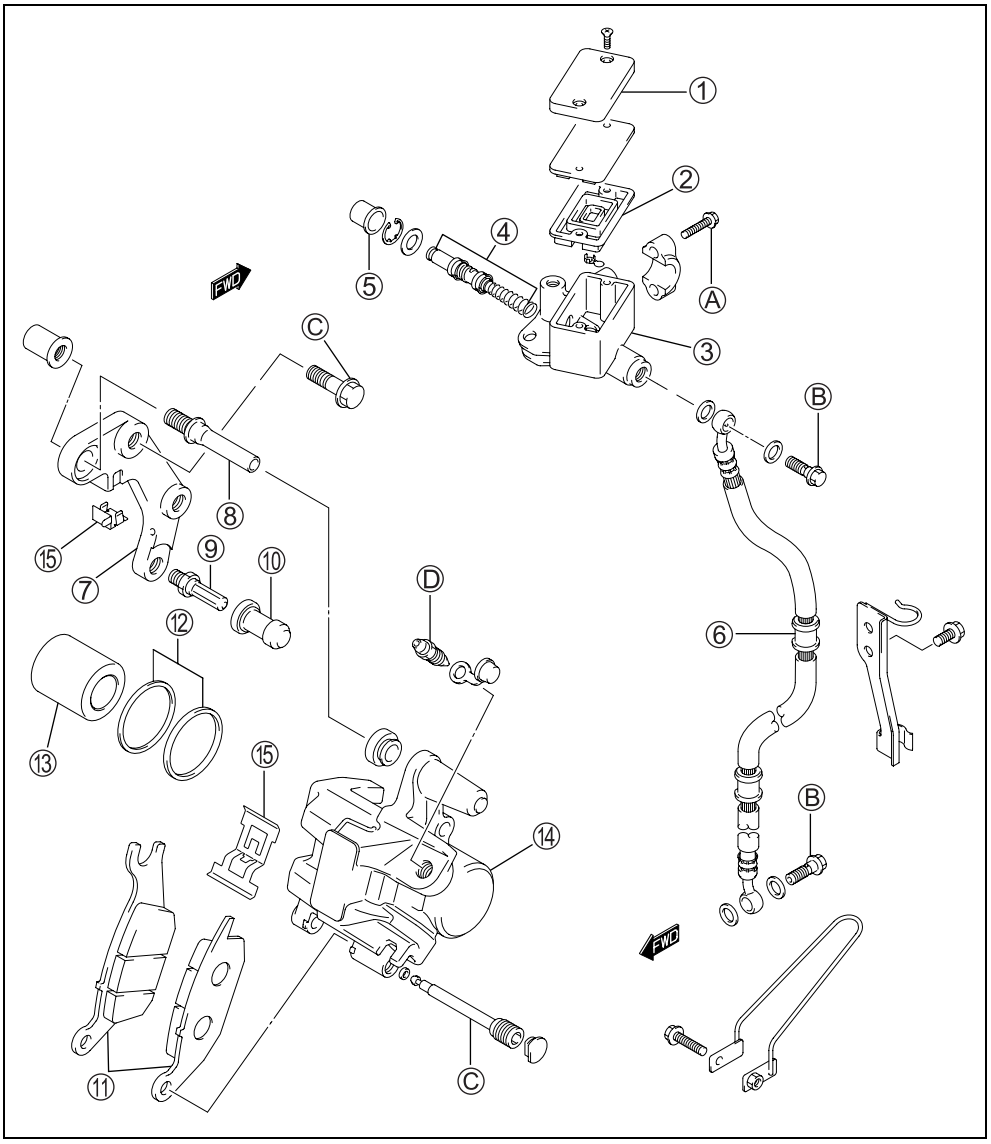
FRONT BRAKE (UY125S)

①	Reservoir cap
②	Diaphragm
③	Master cylinder
④	Piston set
⑤	Dust seal boot
⑥	Brake hose
⑦	Caliper holder
⑧	Caliper holder pin
⑨	Caliper holder pin
⑩	Rubber parts
⑪	Pad set
⑫	Piston and dust seal
⑬	Piston
⑭	Caliper
⑮	Pad spring
Ⓐ	Master cylinder mounting bolt
Ⓑ	Brake hose union bolt
Ⓒ	Brake caliper mounting bolt
Ⓓ	Air bleeder valve

ITEM	N·m	kgf-m
Ⓐ	10	1.0
Ⓑ	23	2.3
Ⓒ	25	2.5
Ⓓ	7.5	0.75



⚠ WARNING

*** This brake system is filled with an ethylene glycol-based DOT 4 brake fluid. Do not use mix different types of fluid such as silicone-based or petroleum-based.**
*** Do not use any brake fluid taken from old, used or unsealed containers. Never reuse brake fluid left over from the last servicing or stored for a long periods.**
*** When storing the brake fluid, seal the container completely and keep away from children.**
*** When replenishing brake fluid, take care not to get dust into fluid.**
*** When washing brake components, use fresh brake fluid. Never use cleaning solvent.**
*** A contaminated brake disc or brake pad reduces braking performance. Discard contaminated pads and clean the disc with high quality brake cleaner or neutral detergent.**

CAUTION

Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials, etc., and will damage then severly.

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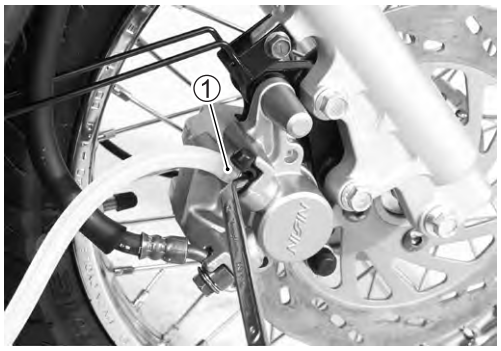
BRAKE FLUID REPLACEMENT

- Remove the front handlebar cover. (☞5-5)
- Place the motorcycle on a level surface and keep the handlebars straight.
- Remove the master cylinder reservoir cap and diaphragm.
- Suck up the old brake fluid as much as possible.
- Fill the reservoir with new brake fluid.

Specification and classification: DOT 4

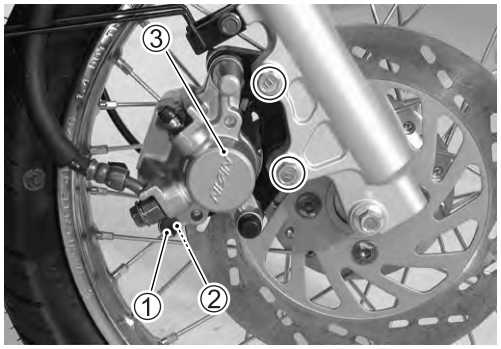


- Connect a clear hose to the air bleeder valve ① and insert the other end of the hose into a receptacle.
- Loosen the air bleeder valve and pump the brake lever until the old brake fluid is completely out of the brake system.
- Close the air bleeder valve and disconnect a clear hose. Fill the reservoir with new brake fluid to the upper level of the reservoir.

CAUTION

*** Never reuse the brake fluid left over from previous servicing and which has been stored for long periods of time.**
*** Bleed air from the brake system. (☞2-14)**

BRAKE PAD REPLACEMENT



- Remove the cap ① and loosen the brake pad mounting pin ②.
- Remove the brake caliper ③.

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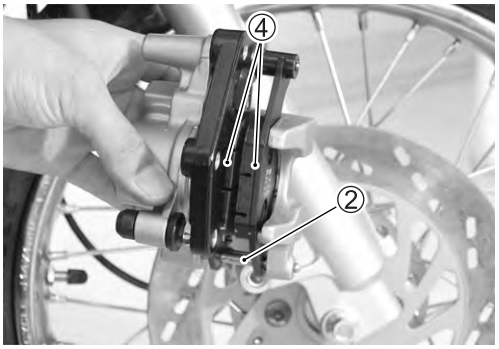
• Remove the brake pad mounting pin ② and brake pads ④.



CAUTION

*** Do not operate the brake lever after brake pad removal.**
*** Replace the brake pad as a set, otherwise braking performance will be adversely affected.**

• Install the new brake pads.
• Temporarily tighten the brake pad mounting pin ②.
• Tighten the brake caliper mounting bolts and brake pad mounting pin.

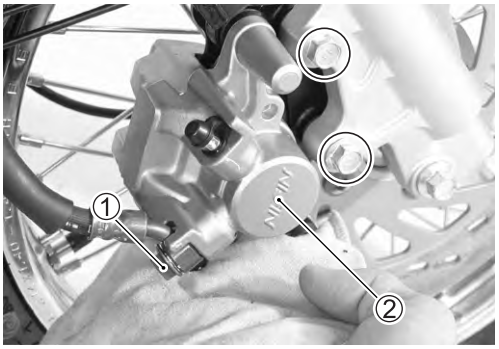
Brake caliper mounting bolt: 25 N·m (2.5 kgf-m)

• Install the cap.

NOTE:
After replacing the brake pads, pump the brake lever a few times to check for proper brake operation and then check the brake fluid level.

CALIPER REMOVAL

• Loosen the brake pad mounting pin. (☞ 5-25)
• Remove the brake hose union bolt ①.



NOTE:
Place a rag underneath the union bolt on the brake caliper to catch any spilt brake fluid.

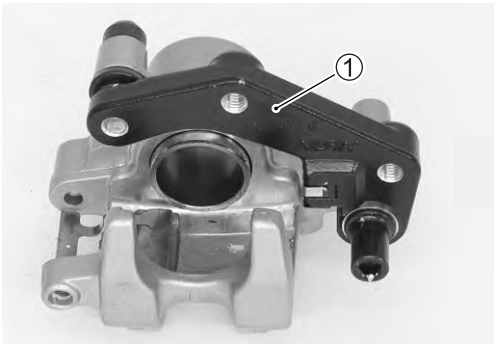
CAUTION

Immediately wipe off any brake fluid contacting any part of the motorcycle. The brake fluid reacts chemically with paint, plastics, rubber materials, etc., and will damage them severely.

• Remove the brake caliper ②.

CALIPER DISASSEMBLY

• Remove the brake pads. (☞above)
• Remove the brake caliper holder ①.



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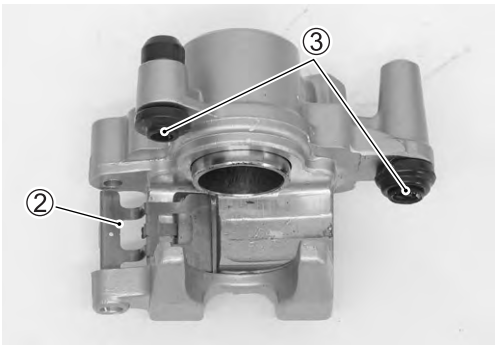
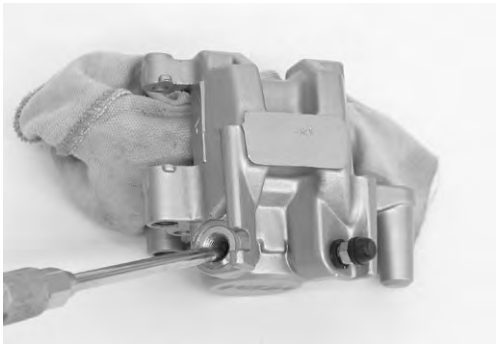
- Remove the pad spring ②.
- Remove the rubber parts ③.



- Place a rag over the pistons to prevent them from popping out and then force out the pistons using compressed air.

CAUTION

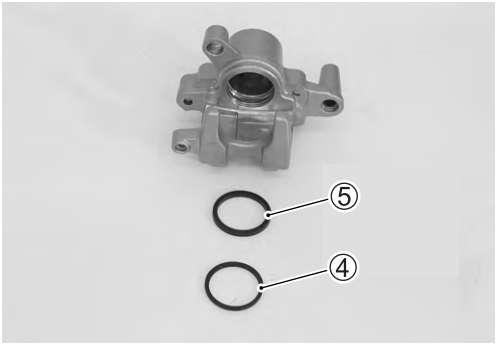
Do not use high pressure air to prevent piston damage.



- Remove the dust seal ④ and piston seal ⑤.

CAUTION

Do not reuse the removed dust seals and piston seals to prevent fluid leakage.



CALIPER INSPECTION

CALIPER

Inspect the caliper cylinder wall and piston surface for scratch, corrosion or other damages.

If any abnormal condition is found, replace the caliper or caliper piston with a new one.

PAD SPRING

Inspect the brake pad spring for damage excessive bend. If any damage is found, replace it with a new one.

RUBBER PARTS

Inspect the boots for damage and cracks. If any defects are found, replace the rubbers with new ones.

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CALIPER HOLDER
Inspect the caliper holder for damage. If any defects are found, replace it with a new one.

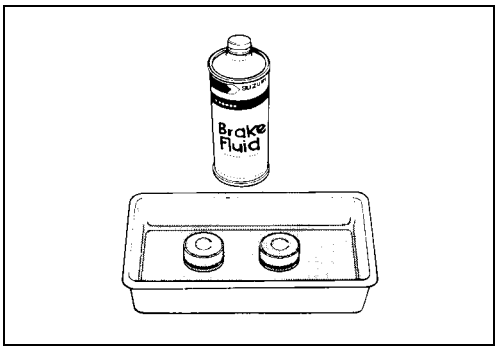
CALIPER REASSEMBLY

Reassemble the brake caliper in the reverse order of disassembly. Pay special attention to the following points:
Wash the caliper bores and pistons with the specified brake fluid.
Thoroughly wash the dust seal grooves and piston seal grooves.

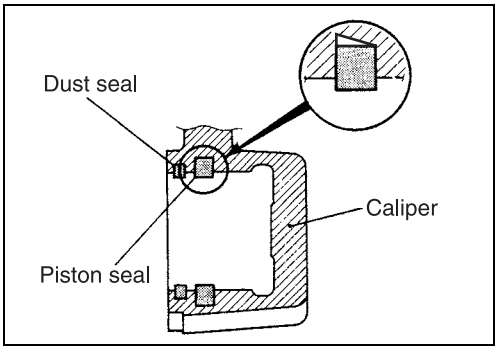
CAUTION

*** Wash the brake caliper components with new brake fluid before reassembly. Do not wipe the brake fluid off after washing the components with a rag.**
*** Replace the removed piston seals and dust seals with new ones. Apply brake fluid to all of the seals, brake caliper bores and pistons before reassembly.**

Specification and classification: DOT 4

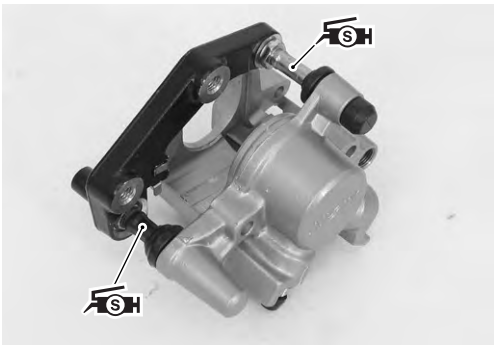


PISTON SEAL
• Install the piston seal and dust seal as shown.



BRAKE CALIPER HOLDER
• Apply SUZUKI SILICON GREASE to the brake caliper holder pin.

99000-25100: SUZUKI SILICONE GREASE



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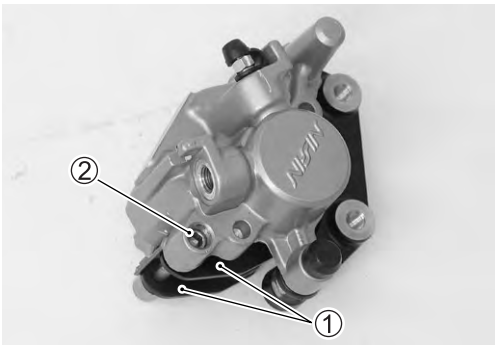
- Install the brake pad ①.
- Temporary tighten the brake pad mounting pin ②.



CALIPER INSTALLATION

Install the caliper in the reverse order of removal. Pay attention to the following points:

- Tighten the brake caliper mounting bolts and brake pad mounting pin.

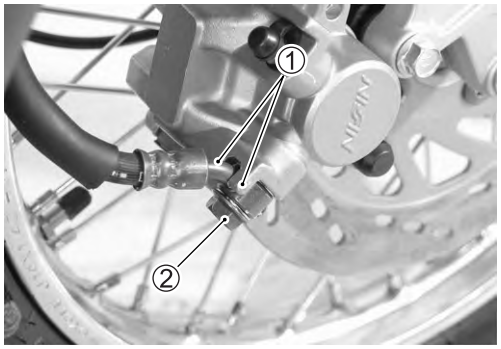
Brake caliper mounting bolt: 25 N·m (2.5 kgf-m)

- Tighten the brake pad mounting pin.

- With the hose and contacted to the stopper ①, tighten the union bolt ②.

Brake hose union bolt: 23 N·m (2.3 kgf-m)

- Fill the system with brake fluid and bleed air. (☞2-14)

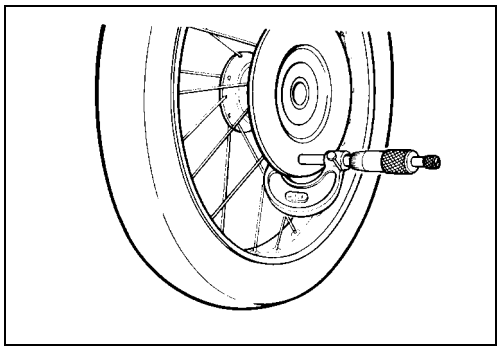


BRAKE DISC INSPECTION

Check the brake disc for cracks or damage and measure the thickness using the micrometer.
Replace the disc if the thickness is less than the service limit, or if damage is found. (☞5-21, -22)

DATA Brake disc thickness: Service Limit: 3.0 mm

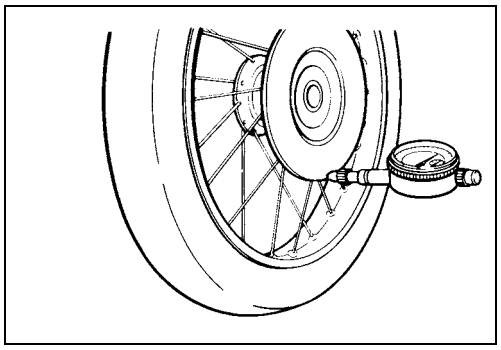
TOOL 09900-20205: Micrometer (0 – 25 mm)



- Measure the runout with a dial gauge.
- If either measurement exceeds the service limit, replace the brake disc with a new one. (☞5-21, -22)

DATA Brake disc runout: Service Limit: 0.30 mm

TOOL 09900-20607: Dial gauge (1/100 mm)
09900-20701: Magnetic stand



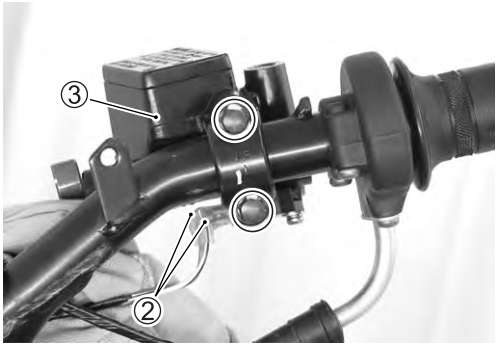
MASTER CYLINDER REMOVAL AND DISASSEMBLY

- Remove the front and rear handlebar covers. (☞5-5)
- Place a rag underneath the brake hose union bolt ① on the master cylinder to catch any spilt brake fluid. (☞5-25)

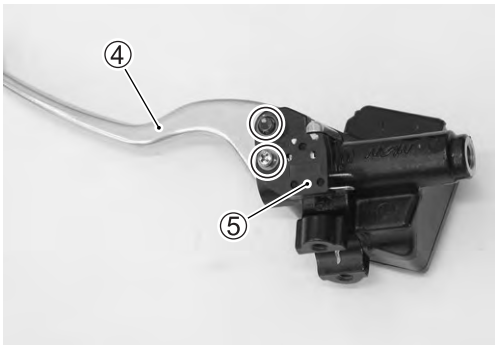
CAUTION

Immediately wipe off any brake fluid contacting any part of the motorcycle. The brake fluid reacts chemically with paint, plastics, rubber materials, etc., and will damage them severely.

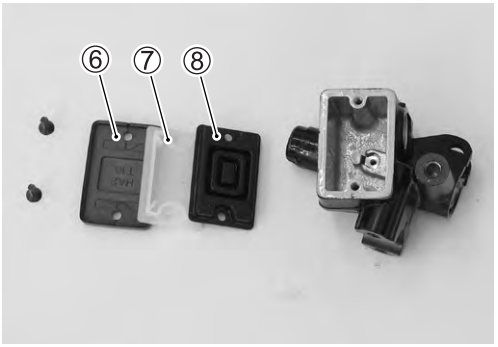
- Disconnect the front brake light switch lead wires ②.
- Remove the front brake master cylinder ③.



- Remove the brake lever ④ and brake switch ⑤.



- Remove the reservoir cap ⑥, diaphragm plate ⑦ and diaphragm ⑧.



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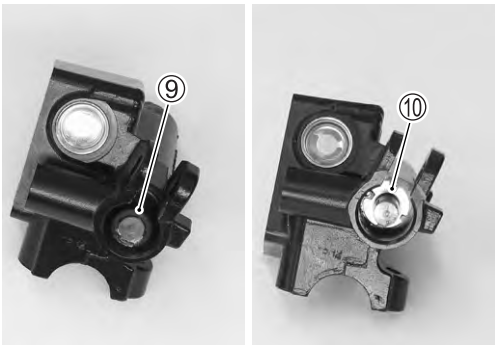
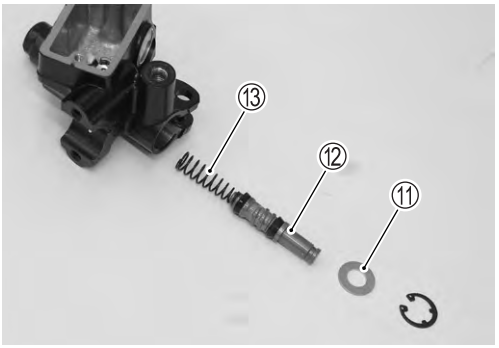
• Pull out the dust seal boot ⑨ and remove the snap ring ⑩.



• Remove the plate ⑪, piston ⑫ and spring ⑬.



MASTER CYLINDER INSPECTION

CYLINDER

Inspect the master cylinder bore for any scratches or damage.

PISTON AND CUP SET

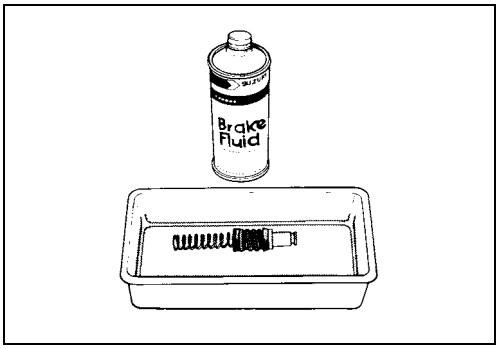
Inspect the piston surface for any scratches or other damage.
Inspect the primary cup, secondary cup and dust seal for wear or damage.

MASTER CYLINDER REASSEMBLY AND INSTALLATION

Reassemble and install the master cylinder in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION

*** Wash the master cylinder components with new brake fluid before reassembly.**
*** Do not wipe the brake fluid off after washing the components with a rag.**
*** When washing the components, use the specified brake fluid. Never use different types of fluid or cleaning solvents such as gasoline, kerosine, etc.**
*** Apply brake fluid to the master cylinder bore and all of the master cylinder components before reassembly.**



BF **Specification and classification: DOT 4**

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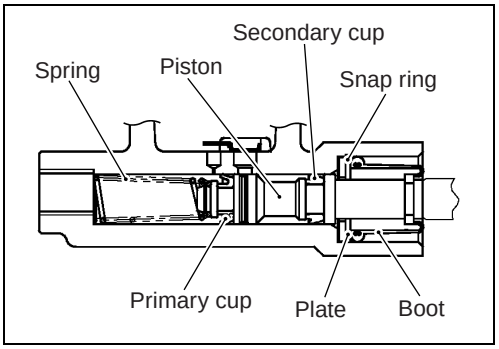
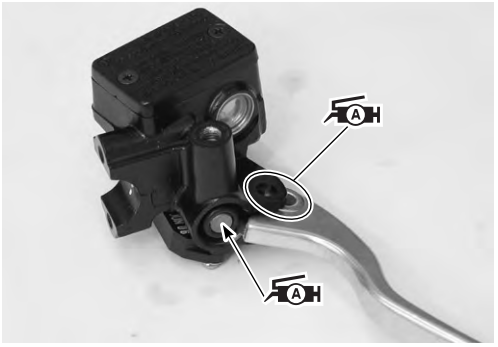
- Install the piston/cup set.



- When installing the brake light switch, align the projection on the switch with the hole in the master cylinder.

- Apply SUZUKI SUPER GREASE “A” to the piston and brake lever pivot.

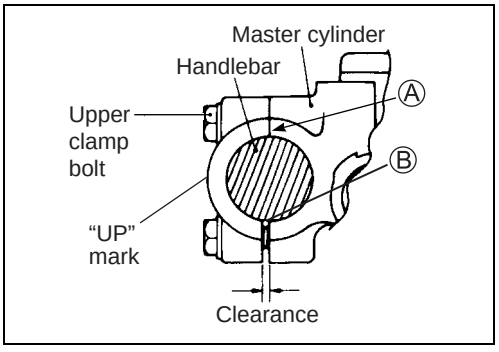
99000-25010: SUZUKI SUPER GREASE “A”



- When installing the master cylinder onto the handlebars, align the master cylinder holder’s mating surface Ⓐ with the punched mark Ⓑ on the handlebars and tighten the upper clamp bolt first.

Master cylinder bolt: 10 N·m (1.0 kgf-m)

- Connect the front brake light switch lead wires.



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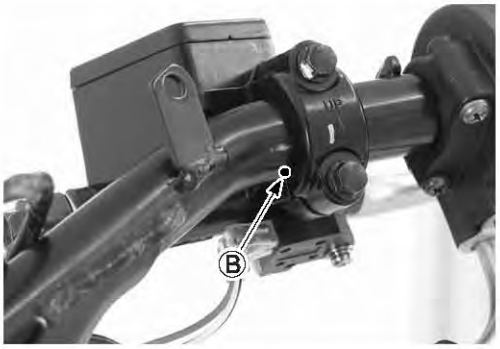
- Install the brake hose union as shown and tighten the union bolt to the specified torque.

Brake hose union bolt: 23 N·m (2.3 kgf-m)

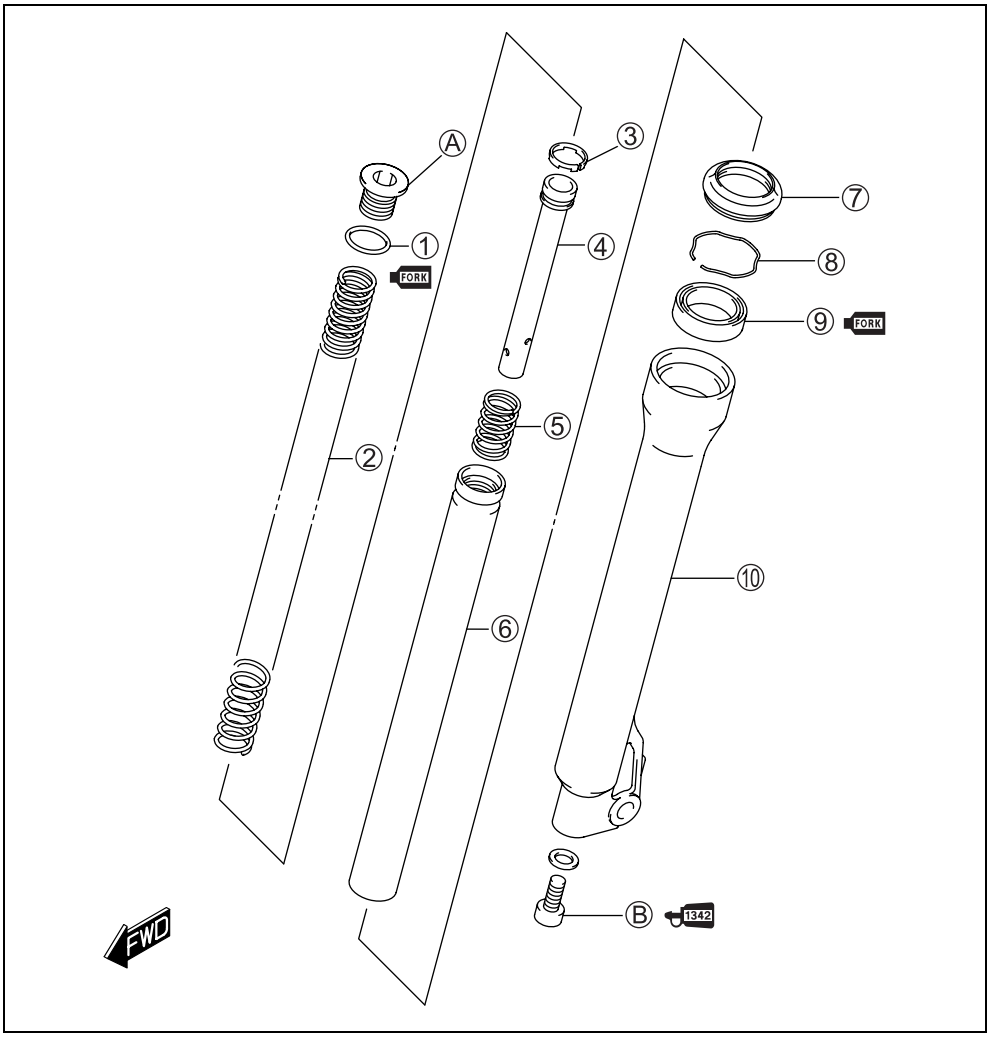
- Fill the master cylinder with brake fluid and bleed air. (☞2-14)



FRONT FORK

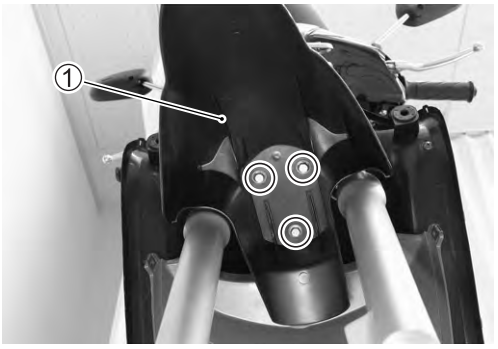
①	O-ring
②	Spring
③	Damper rod ring
④	Damper rod
⑤	Rebound spring
⑥	Inner tube
⑦	Dust seal
⑧	Oil seal stopper ring
⑨	Oil seal
⑩	Outer tube
Ⓐ	Front fork cap bolt
Ⓑ	Damper rod bolt

ITEM	N·m	kgf-m
Ⓐ	20	2.0
Ⓑ	23	2.3



REMOVAL AND DISASSEMBLY

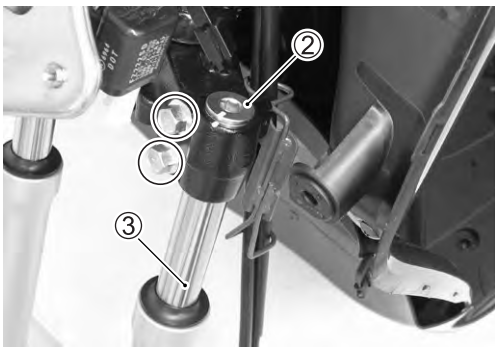
- Remove the front leg shield. (☞5-6)
- Remove the front wheel.
  (☞UY125: 5-12)(☞UY125S: 5-20)
- Remove the front fender ①.
- Remove the front brake hose guide and front brake caliper. (UY125S)(☞5-25)



- Loosen the front fork top cap ②.
- Remove the front fork clamp bolts.

NOTE:
Hold the front fork by the hand to prevent sliding out of the steering stem.

Remove the front fork ③.



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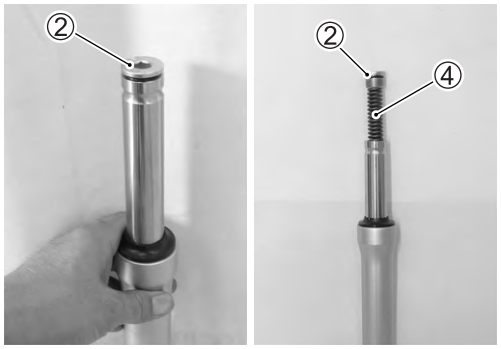
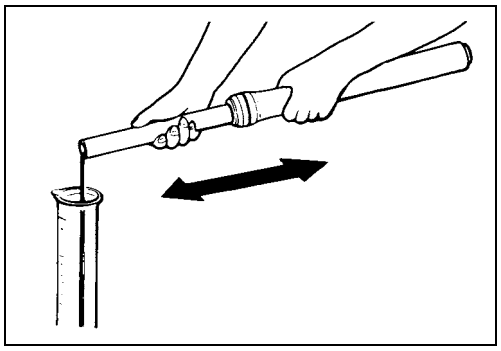
- Remove the front fork cap bolt ② and spring ④.



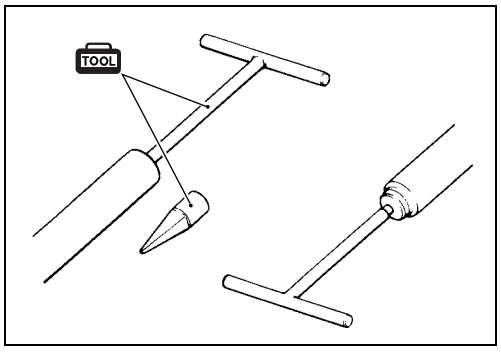
- Invert the fork and stroke it several times to drain out the fork oil.

NOTE:
Hold the fork inverted for a few minutes to drain the oil.

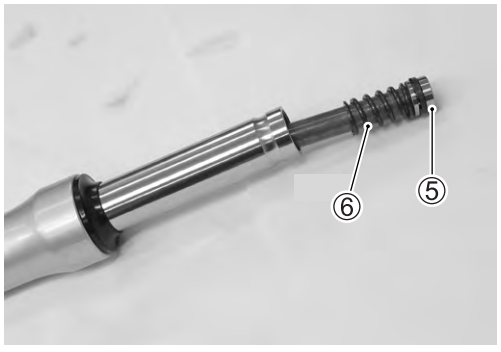


- Remove the damper rod bolt using a 8-mm hexagon wrench and the special tools.

TOOL **09940-34520: "T" handle**
09940-34561: Attachment "D"



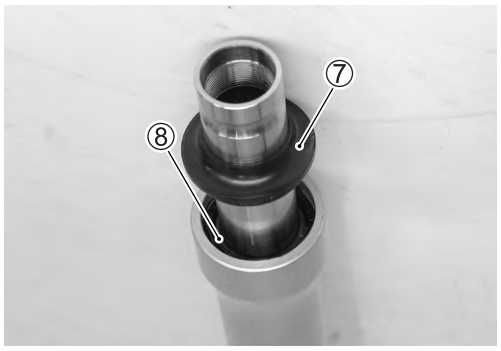
- Remove the damper rod ⑤ and rebound spring ⑥.



- Remove the dust seal ⑦ and the oil seal stopper ring ⑧.

CAUTION

The removed dust seal must be replaced with a new one.



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• Pull the inner tube out of the outer tube.

• Remove the oil seal by using the special tool.

TOOL **09913-50121: Oil seal remover**

CAUTION

The removed oil seal must be replaced with a new one.

INSPECTION

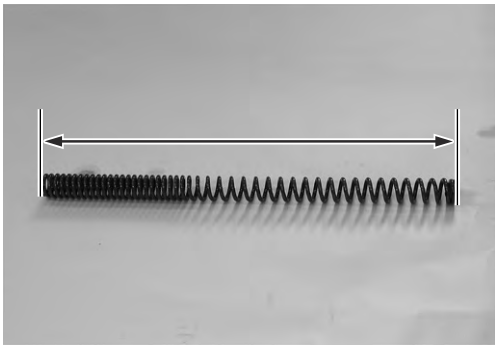
INNER AND OUTER TUBE

Inspect the inner tube sliding surface and outer tube sliding surface for any scuffing or damage.

FRONT FORK SPRING

Measure the fork spring free length. If the fork spring free length is shorter than the service limit, replace the fork spring with a new one.

DATA **Front fork spring free length:**
Service limit: 285.8 mm



DAMPER ROD RING

Inspect the damper rod ring for wear or damage. If it is worn or damaged, replace the damper rod ring with a new one.

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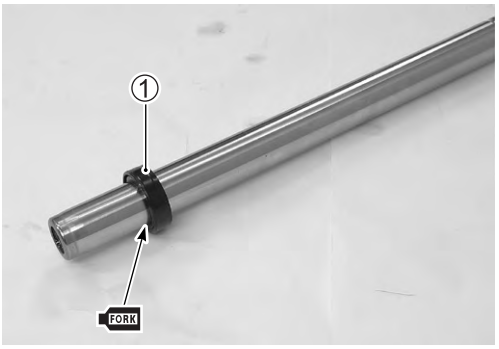
REASSEMBLY AND INSTALLATION

Reassemble and install the front fork in the reverse order of removal and disassembly. Pay attention to the following points:

CAUTION

*** Thoroughly wash all the component parts being assembled.**
*** When reassembling the front fork, use new fork oil.**
*** Use the specified fork oil for the front fork.**
*** When reassembling, replace the oil seal, dust seal and damper rod bolt gasket with new ones.**



- Insert the oil seal ① to the outer tube.

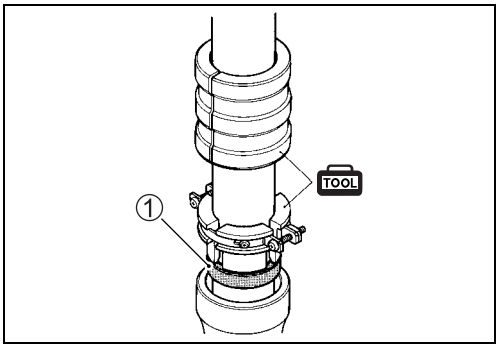
NOTE:
Apply fork oil to the oil seal ① lip lightly before installing it.

FORK **99000-99044-10G: SUZUKI FORK OIL G10 or equivalent fork oil**

OIL SEAL

- Install the oil seal ① into the outer tube using the front fork oil seal installer.

TOOL **09940-52861: Front fork oil seal installer set**



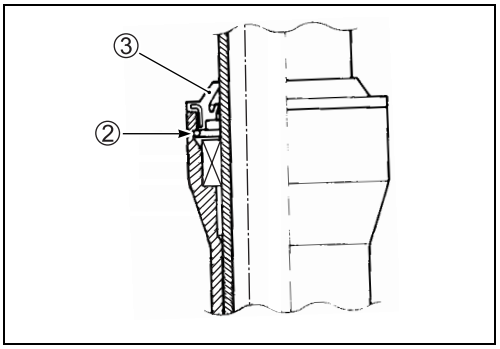
CAUTION

*** Wash clean the front fork oil seal installer before using. If dirt is on the installer, the inner tube may possibly be damaged during press-fitting work.**
*** When install the oil seal, the stamped mark on the oil seal must face upper side.**

- Install the oil seal stopper ring ② and dust seal ③.

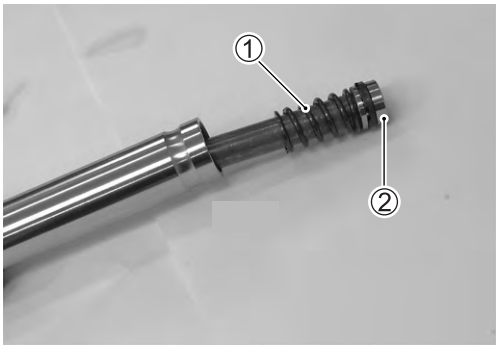
CAUTION

Make sure that the oil seal stopper ring is fitted securely.



DAMPER ROD

- Fit the rebound spring ① to the damper rod ② and install them to the inner tube.



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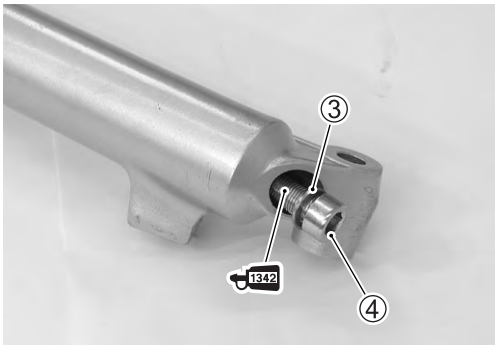
• Fit the gasket ③, coat the damper rod bolt ④ with the thread lock and tighten the bolt to the specified torque.



CAUTION

Use a new damper rod bolt gasket ③ to prevent oil leakage.

Damper rod bolt: 23 N·m (2.3 kgf-m)

99000-32110: THREAD LOCK SUPER “1342”

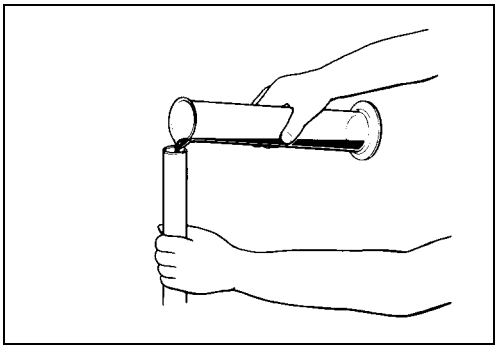
09940-34520: “T” handle
09940-34561: Attachment “D”

FORK OIL

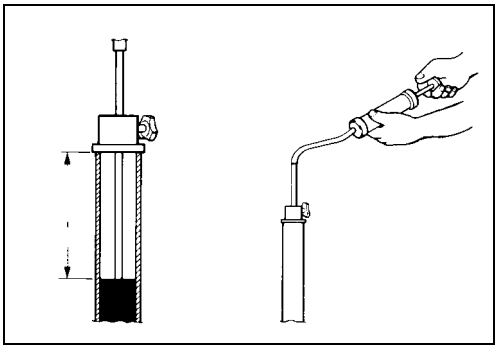
• Pour the specified fork oil into the inner tube.

Front fork oil capacity (each leg): 55 ml

99000-99044-10G: SUZUKI FORK OIL G10 or equivalent fork oil



• Hold the front fork leg in a vertical position and adjust the fork oil level by using the special tool.
• When adjusting the oil level, remove the fork spring and compress the inner tube fully.

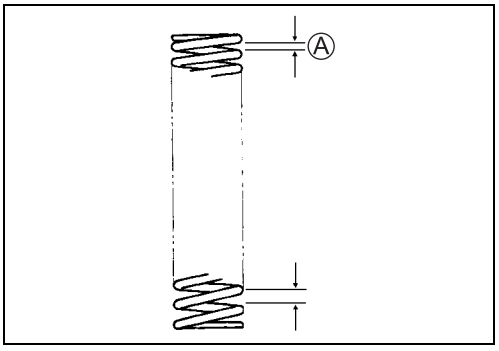


Front fork oil level (without spring): 93 mm

09943-74111: Fork oil level gauge

FORK SPRING

• The end of the fork spring with the smaller pitch Ⓐ should be at the top of the front fork.



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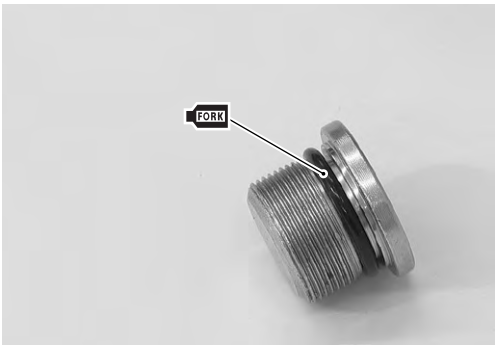
• Fit the O-ring to the front fork cap bolt and apply fork oil.

CAUTION

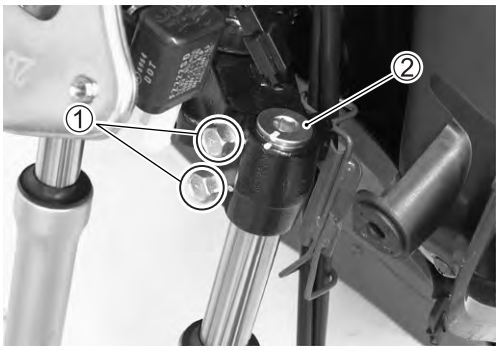
Use a new O-ring to prevent oil leakage.

FORK **99000-99044-10G: SUZUKI FORK OIL G10 or equivalent fork oil**



• Temporarily install the front fork to the motorcycle.
• Tighten the front fork bolts ① to the specified torque.
• Tighten the front fork cap bolt ② to the specified torque.

Front fork clamp bolt: 28 N·m (2.8 kgf-m)
Front fork cap bolt: 20 N·m (2.0 kgf-m)



• Install the front brake caliper and front brake hose guide. (UY125S)(☞5-29)
• Install the front fender and front wheel.
(☞UY125: 5-19, -34)(☞UY125S: 5-23, -34)
• Move the front fork up and down four or five times.

CAUTION

*** After assembling the front fork, check each tightening part for looseness, play and other conditions.**
*** Check for oil leakage.**

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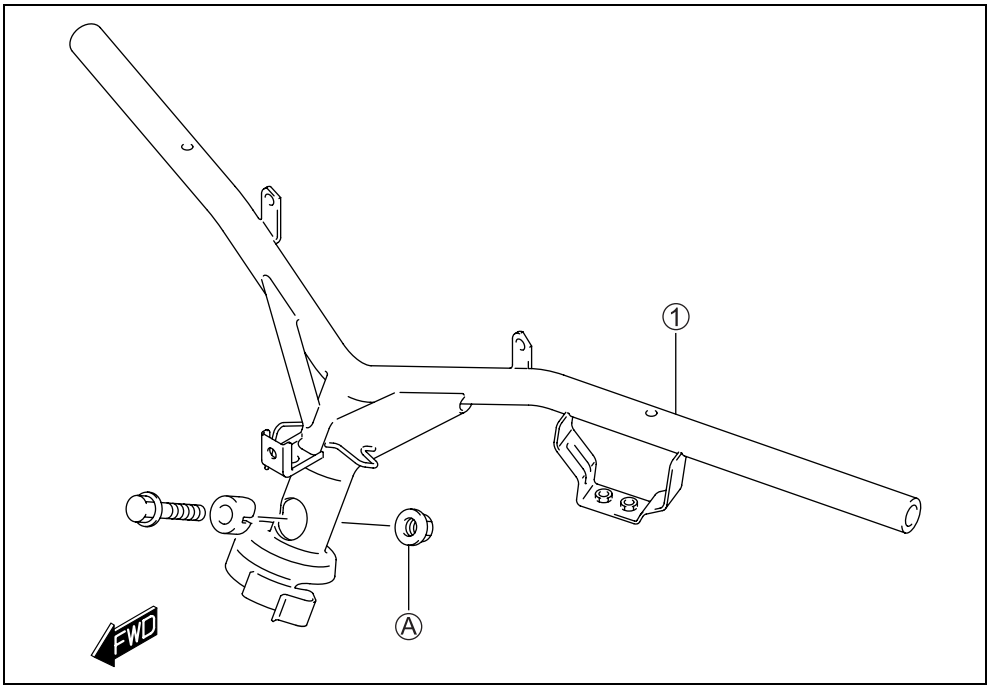
HANDLEBARS

①	Handlebars
Ⓐ	Handlebar clamp nut

ITEM	N·m	kgf-m
Ⓐ	60	6.0

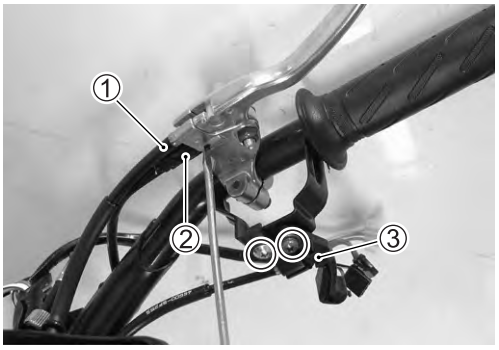


REMOVAL

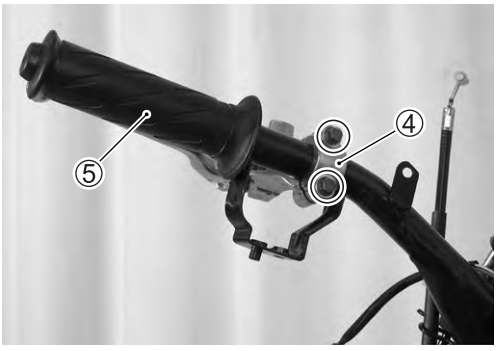
- Remove the front leg shield. (☞5-6)
- Remove the front and rear handlebar covers. (☞5-5)
- Remove the cable clamp.

HANDLEBAR LEFT SIDE PARTS

- Disconnect the rear brake cable ① and brake switch ②.
- Remove the starter lever ③.



- Remove the rear brake lever holder ④ and left handle grip ⑤.



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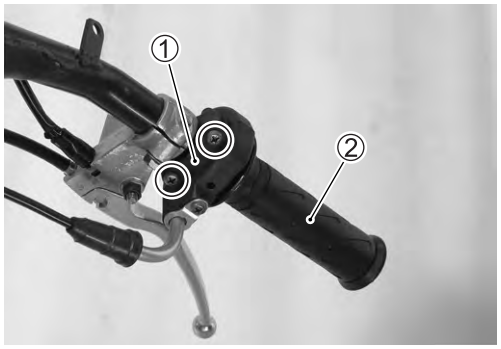
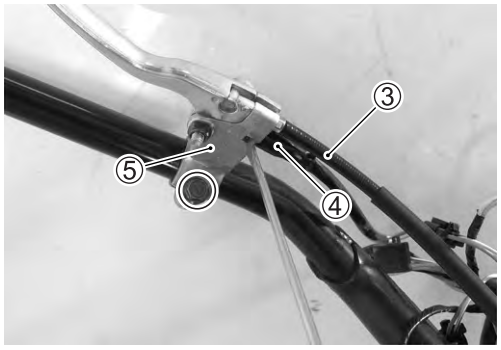
HANDLEBAR RIGHT SIDE PARTS

- Remove the throttle cable by removing the throttle grip case ①.
- Remove the throttle grip ②.



- Disconnect the front brake cable ③ and brake switch ④. (UY125)
- Remove the front brake lever holder ⑤. (UY125)
- Disconnect the brake light switch lead wires, and remove the front brake master cylinder. (UY125S)(☞5-30)



- Remove the handlebars by removing the handlebar clamp nut.

INSTALLATION

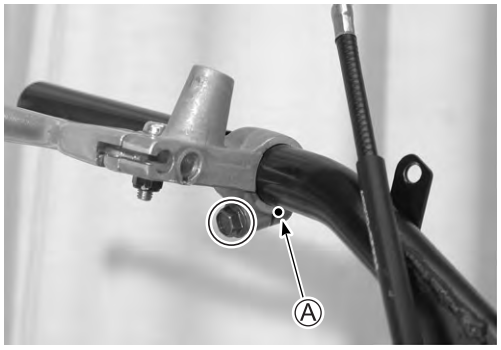
Install the handlebars in the reverse order of removal.
Pay attention to the following points:

- Tighten the handlebar clamp nut to the specified torque.

Handlebar clamp nut: 60 N·m (6.0 kgf-m)

HANDLEBAR RIGHT SIDE PARTS

- Align the punch mark Ⓐ on the handlebars with the front brake holder matching surface. (UY125)
- Install the master cylinder. (UY125S)(☞5-33)



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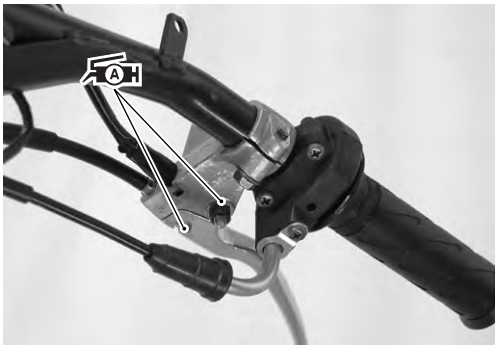
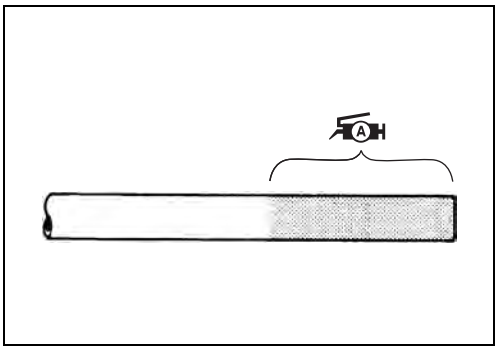
- Apply SUZUKI SUPER GREASE “A” to the cable end and brake lever pivot.

99000-25010: SUZUKI SUPER GREASE “A”



- Apply SUZUKI SUPER GREASE “A” onto the handlebars before installing the throttle grip.

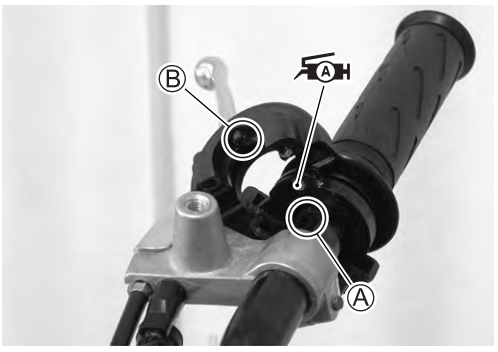
99000-25010: SUZUKI SUPER GREASE “A”



- Apply SUZUKI SUPER GREASE “A” to the throttle cable end and cable drum.

99000-25010: SUZUKI SUPER GREASE “A”

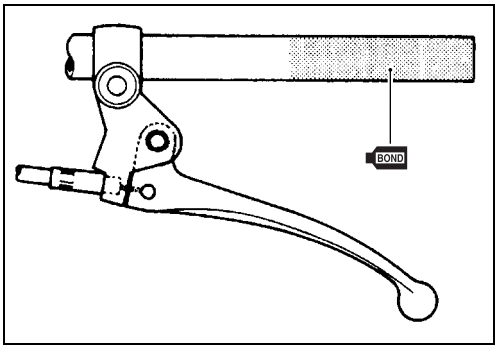
- Align the hole Ⓐ on the handlebars with the hole Ⓑ of the throttle grip case.
- Tighten the throttle grip case screw.



HANDLEBAR LEFT SIDE PARTS

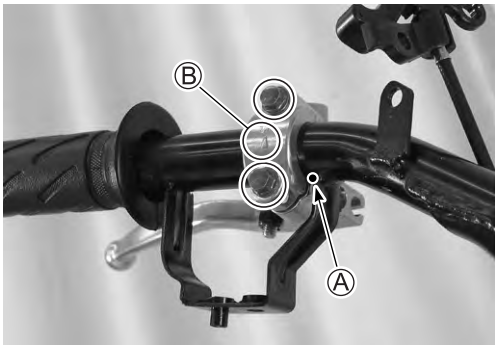
- Apply a handle grip bond onto the handlebars before installing the handlebar grip.

39442-09D00: HANDLE GRIP BOND



- When remounting the rear brake holder onto the handlebars, align the brake holder’s mating surface with the punched mark Ⓐ on the handlebars and tighten the upper clamp bolt first.

NOTE:
Be sure to face the “UP” mark Ⓑ on the holder to the upside.



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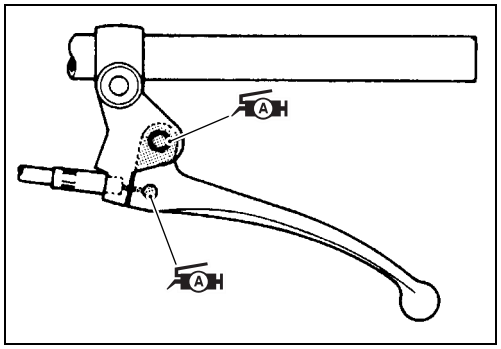
- Apply SUZUKI SUPER GREASE “A” to the cable end and brake lever pivot.

99000-25010: SUZUKI SUPER GREASE “A”



- After installing the handlebar, route the wire harness properly. (☞7-12)
- Adjust the throttle operation and cable play (☞2-10)

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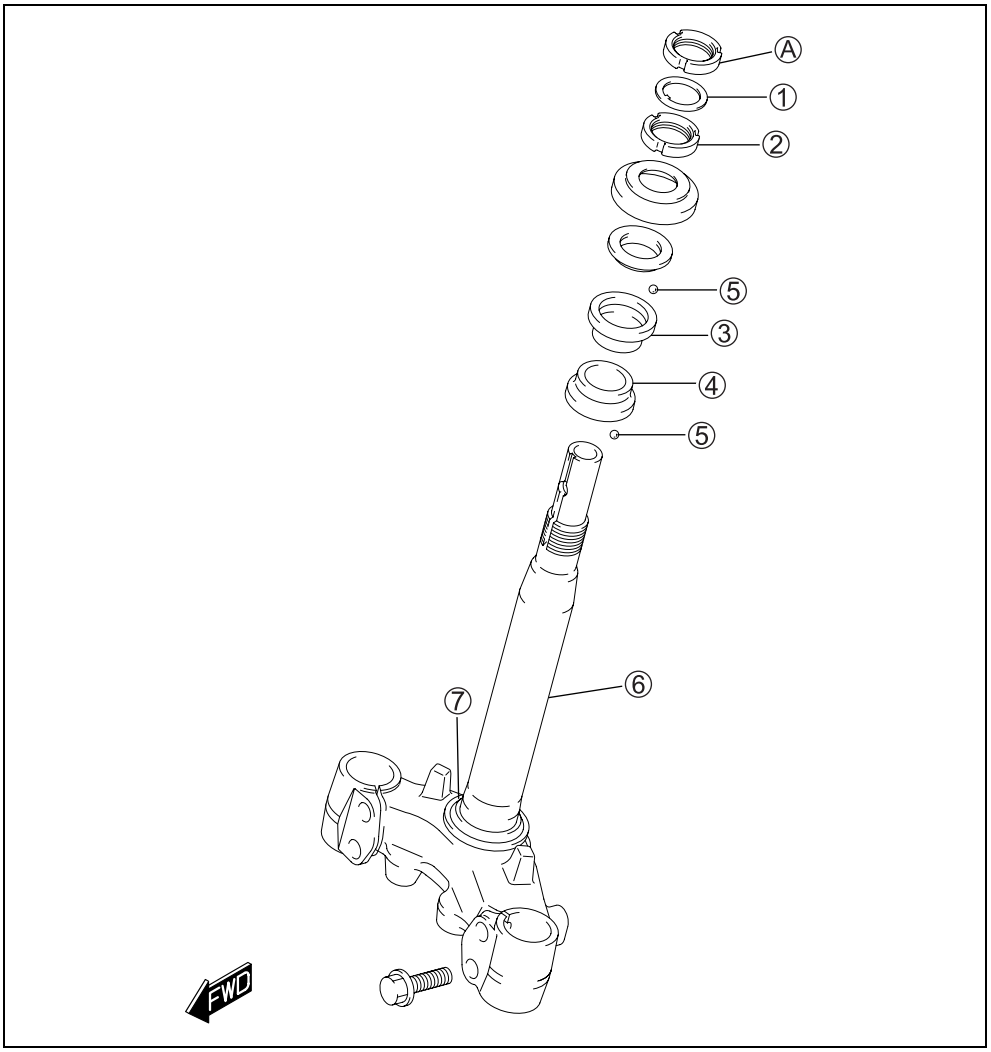
STEERING

①	Washer
②	Steering stem nut
③	Inner upper race
④	Inner lower race
⑤	Steel ball
⑥	Steering stem
⑦	Outer lower race
Ⓐ	Steering stem lock-nut

ITEM	N·m	kgf-m
Ⓐ	90	9.0



REMOVAL AND DISASSEMBLY

- Remove the handlebars. (☞5-40)
- Remove the front wheel.
  (☞UY125: 5-12)(☞UY125S: 5-20)
- Remove the front fender and front forks. (☞5-34)
- Remove the cable guide ①.

- Remove the steering stem lock-nut with the special tool.

09910-60611: Universal clamp wrench

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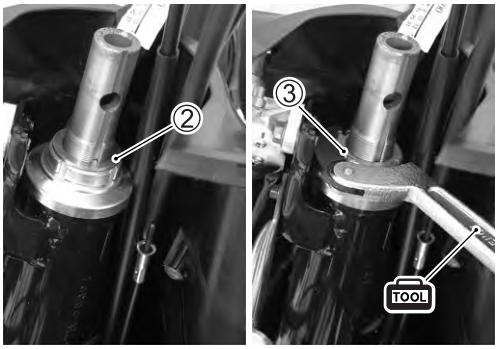
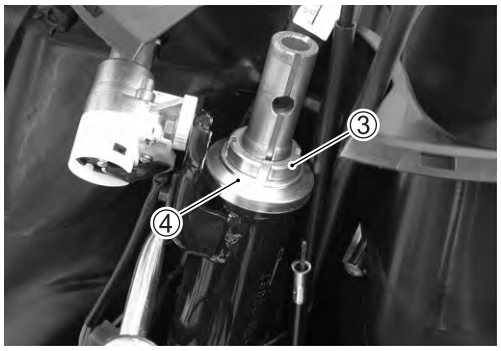
- Remove the washer ②.
- Loosen the steering stem nut ③ with the special tool.

TOOL 99000-60611: Universal clamp wrench

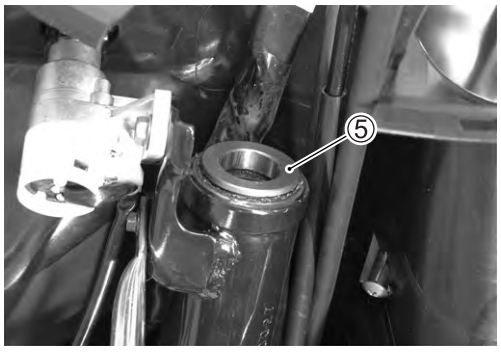


- Remove the steering stem nut ③ and dust cover ④.

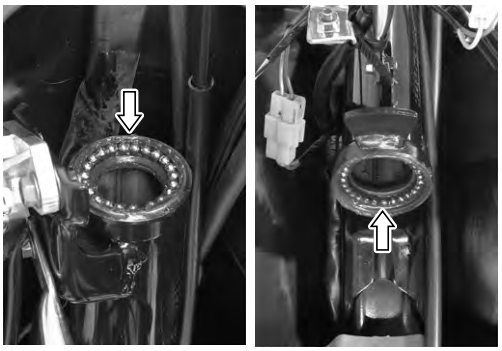
NOTE:
Hold the steering stem bracket to prevent it from falling.



- Remove the upper bearing inner race ⑤.



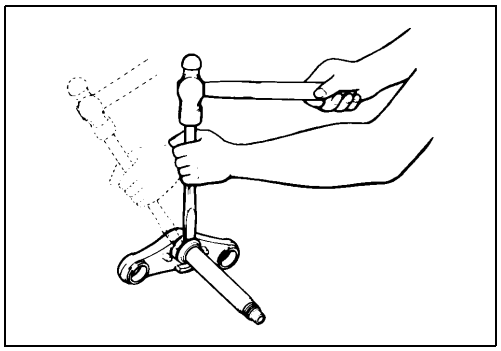
- Remove the upper and lower steel balls.
  Upper: 22 pcs.
  Lower: 27 pcs.



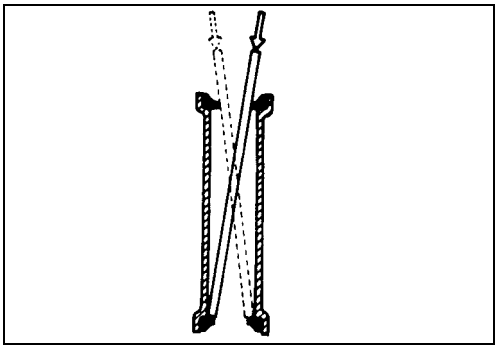
- Remove the outer lower race with a chisel.

CAUTION

The removed outer lower race should be replaced with a new one.



- Drive out the upper and lower races.



INSPECTION

Inspect the steering stem for any damage.
Inspect the steel balls and race for corrosion, wear or other damage.

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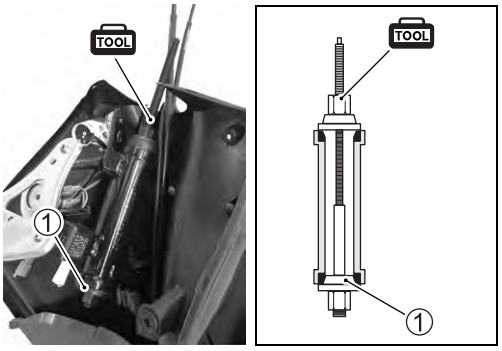
REASSEMBLY AND INSTALLATION

Reassemble and install the steering in the reverse order of removal and disassembly. Pay attention to the following points:

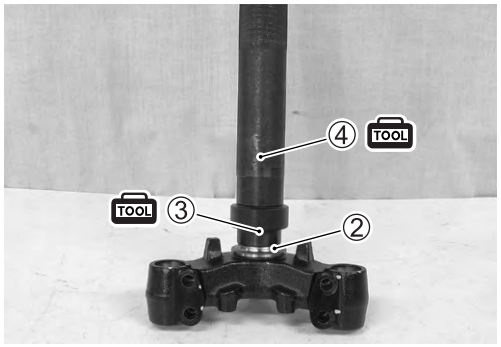
- Press in the upper and lower outer races with the special tool.

09941-34513: Steering race installer
09924-84510: Bearing installer set (Attachment ①)



- Press in the outer lower race ② with the special tools.

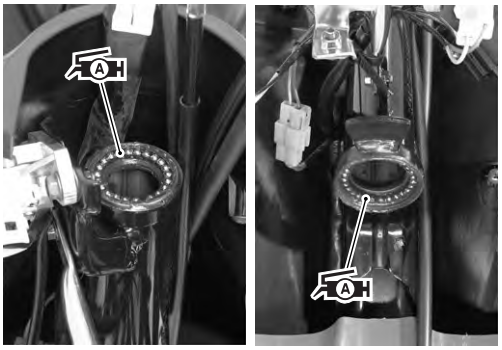
09913-70210: Bearing installer set ③
09940-51710: Bearing installer ④



- Apply SUZUKI SUPER GREASE “A” to the upper and lower races.
- Install the steel balls.

99000-25010: SUZUKI SUPER GREASE “A”

Number of steel balls	Upper	22 pcs.
	Lower	27 pcs.



- Tighten the steering stem nut to the specified torque with the special tool.

09910-60611: Universal clamp wrench

Steering stem nut: 45 N·m (4.5 kgf-m)

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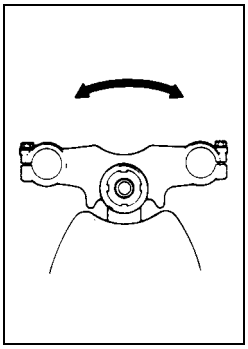
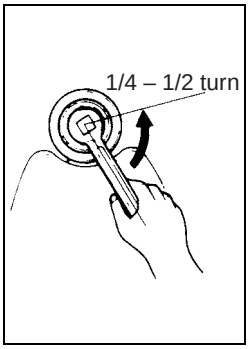
- Turn the steering stem bracket about five or six times to the left and right so that the steel balls will be seated properly.
- Loosen the stem nut by 1/4 – 1/2 turn.

NOTE:
This adjustment will vary from motorcycle to motorcycle.





NOTE:
When installing the washer, align the stopper lug to the groove of steering stem.

- Tighten the steering stem lock-nut to the specified torque, with the special tool.

TOOL 09910-60611: Universal clamp wrench

Steering stem lock-nut: 90 N·m (9.0 kgf-m)

NOTE:
Tightening the lock-nut can affect the steering stem nut adjustment. Therefore after tightening the lock-nut, check the steering movement again and adjust if necessary.

- Install the front forks and front fender. (☞5-39)
- Install the front wheel. (☞UY125: 5-19)(☞UY125S: 5-23)
- Install the handlebars. (☞5-41)
- Perform the steering inspection after assembly has been completed. (☞2-17)

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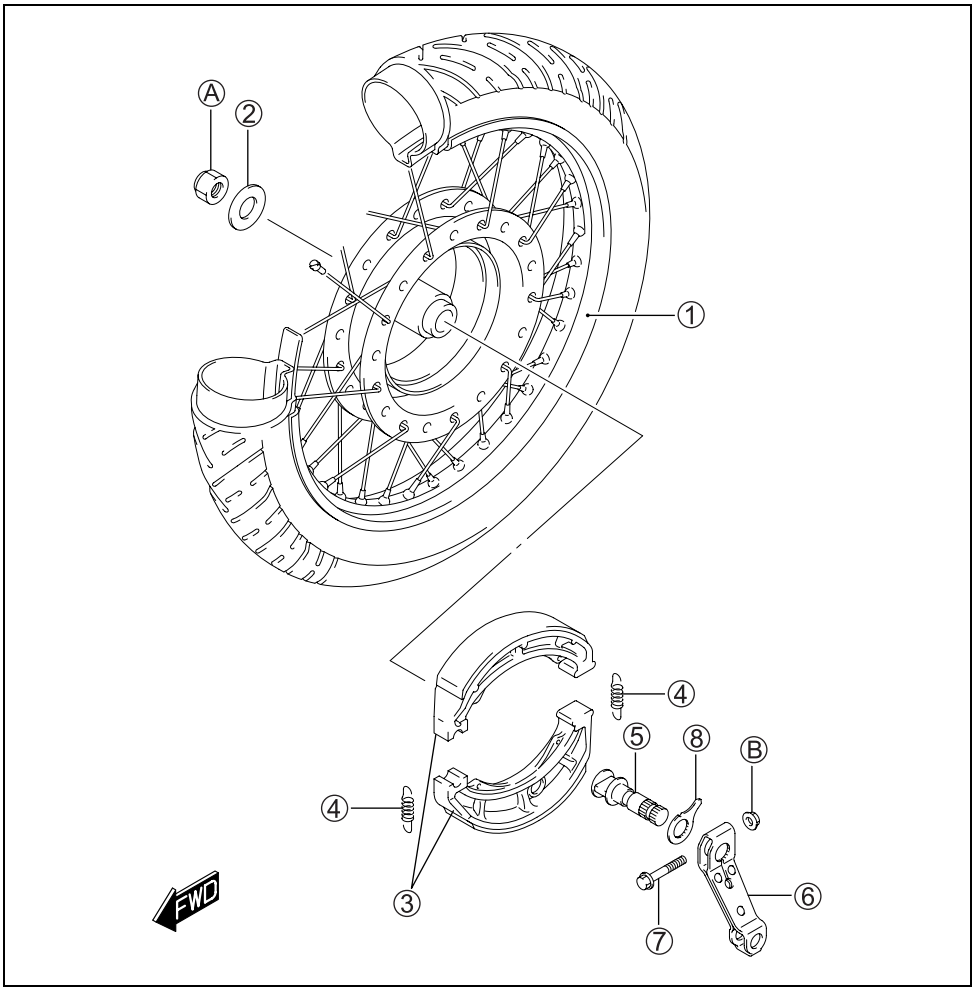
REAR WHEEL AND REAR BRAKE

CONSTRUCTION

①	Rear wheel
②	Washer
③	Brake shoe
④	Spring
⑤	Brake camshaft
⑥	Brake cam lever
⑦	Brake cam lever bolt
⑧	Brake lining wear indicator
Ⓐ	Rear axle nut
Ⓑ	Rear brake cam lever nut

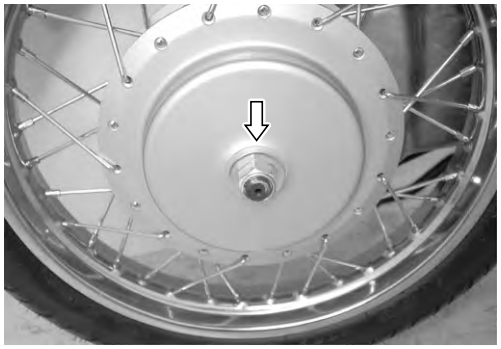
ITEM	N·m	kgf-m
Ⓐ	120	12.0
Ⓑ	11	1.1



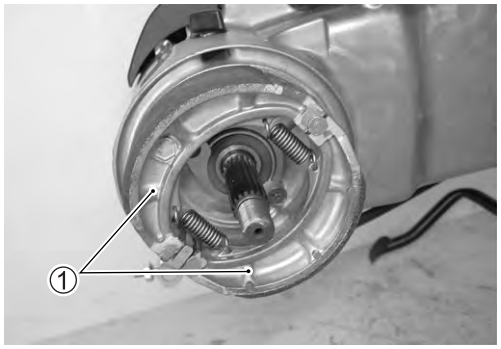
REMOVAL AND DISASSEMBLY

REAR WHEEL AND REAR BRAKE

- Support the motorcycle with the center stand.
- Remove the muffler. (☞3-6)
- Remove the rear wheel.



- Remove the rear brake shoes ①.



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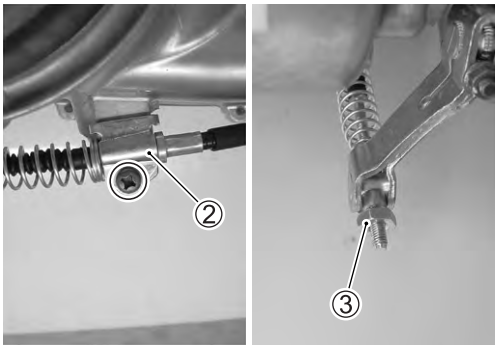
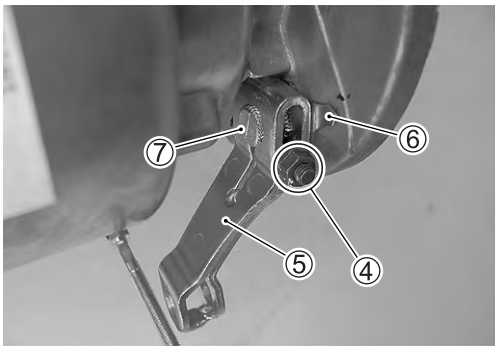
- Remove the brake cable plate ②.
- Remove the brake adjuster ③.



- Remove the brake cam lever nut and bolt ④.
- Remove the brake cam lever ⑤, brake lining wear indicator ⑥ and brake camshaft ⑦.



INSPECTION

BRAKE DRUM

Measure the brake drum I.D. to determine the extent of wear and, if the limit is exceeded by the wear noted, replace the wheel hub. The value of this limit is indicated inside the drum.

DATA Brake drum I.D.:
Service Limit: 130.7 mm

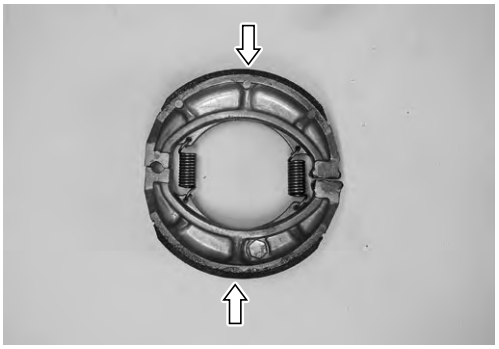
TOOL 09900-20101: Vernier calipers

BRAKE SHOE

Inspect the brake shoes for wear or damage. If any defects are found, replace the brake shoes as a set.

CAUTION

Replace the brake shoes as a set, otherwise braking performance will be adversely affected.



REAR AXLE

Check the rear axle spline for damage or wear. If any abnormal condition is noted, replace the rear axle shaft. (☞ 3-18,-59)

REAR WHEEL..... ☞5-15
TIRE..... ☞2-15
SPOKE NIPPLES..... ☞2-16

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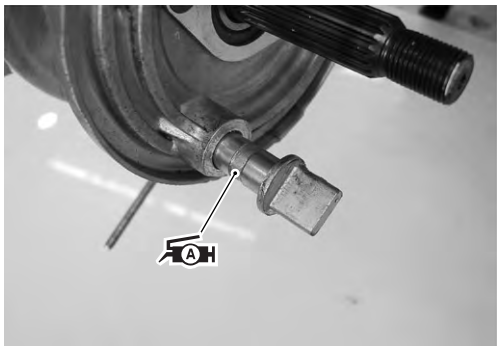
REASSEMBLY AND REMOUNTING

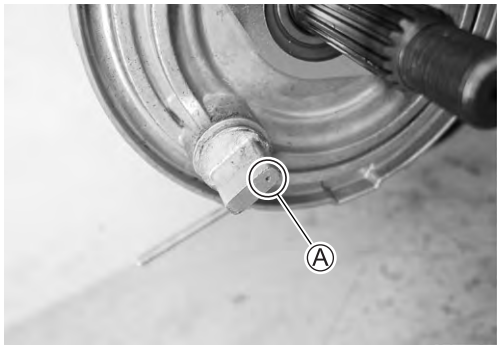
Reassemble and remount the rear wheel and rear brake in the reverse order of removal and disassembly. Pay attention to the following points:

- When installing the camshaft, apply SUZUKI SUPER GREASE “A” to the camshaft.

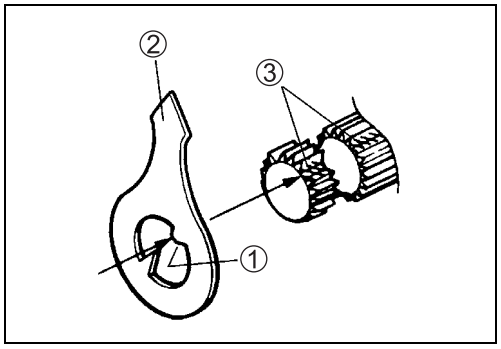
99000-25010: SUZUKI SUPER GREASE “A”



- Turn the punched mark Ⓐ on the camshaft to the rear axle side.



- Align the tang ① on the brake lining wear indicator plate ② with the cutaway ③ on the brake cam. Then, slide the brake lining wear indicator plate onto the brake cam.



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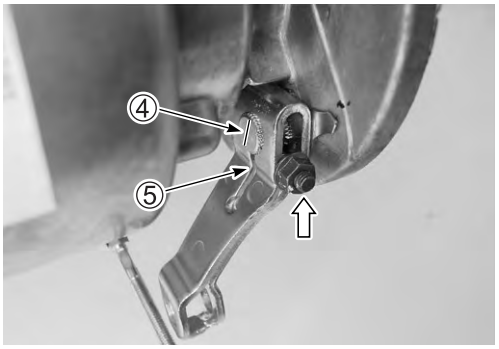
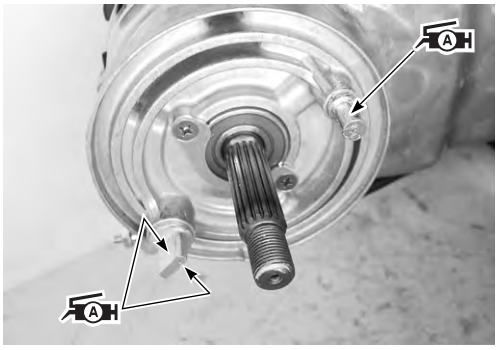
- When installing the brake cam lever, align the groove ④ of camshaft with the slit ⑤ on cam lever. (☞7-27)
- Tighten the brake cam lever nut to the specified torque.

Brake cam lever nut: 11 N·m (1.1 kgf·m)



- Apply SUZUKI SUPER GREASE “A” to the camface and pin.

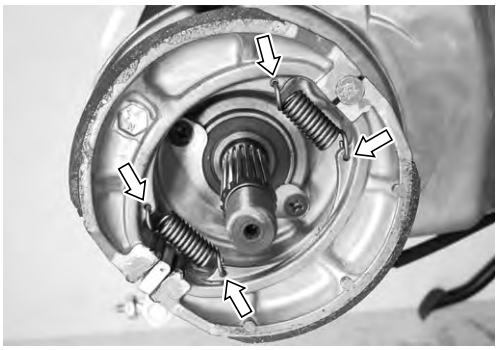
99000-25010: SUZUKI SUPER GREASE “A”



- Install the brake shoes with spring hooks faced inside.

CAUTION

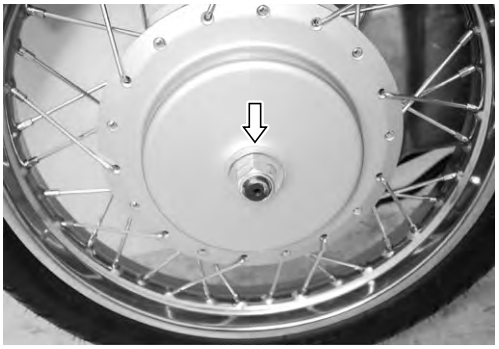
Be careful not to apply too much grease to the camshaft and pin. If grease gets on the lining, brake effectiveness will be lost.



- Tighten the rear axle nut to the specified torque.

Rear axle nut: 120 N·m (12.0 kgf·m)

- Install the muffler. (☞3-9)
- Adjust the rear brake cable play. (☞2-12)



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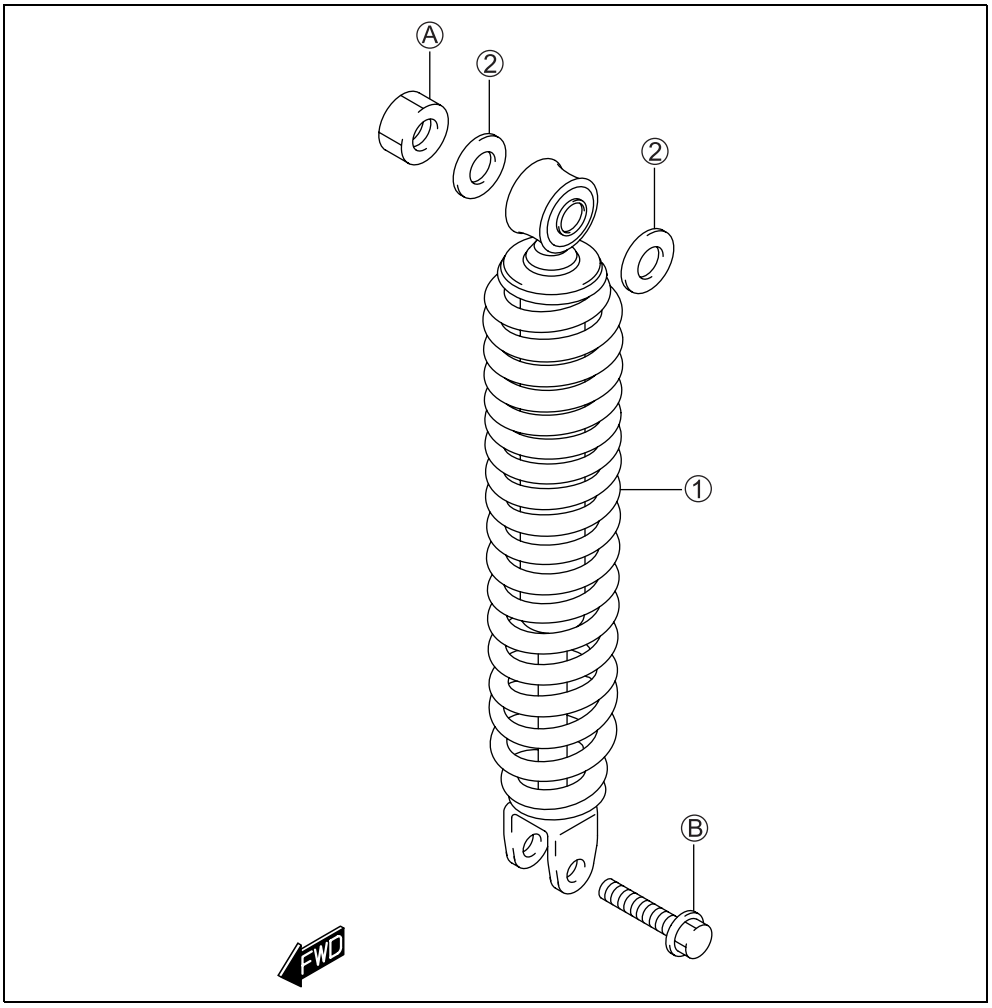
REAR SUSPENSION
CONSTRUCTION

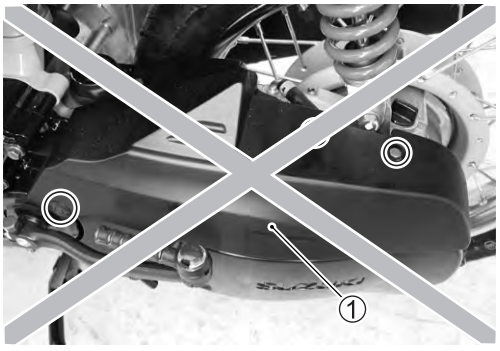
①	Rear shock absorber
②	Washer
Ⓐ	Rear shock absorber mounting nut (Upper)
Ⓑ	Rear shock absorber mounting bolt (Lower)

ITEM	N·m	kgf-m
Ⓐ	29	2.9
Ⓑ	29	2.9



REMOVAL

- Remove the luggage box. (☞5-9)
- Remove the clutch upper cover ①.



- Remove the rear shock absorber ②.

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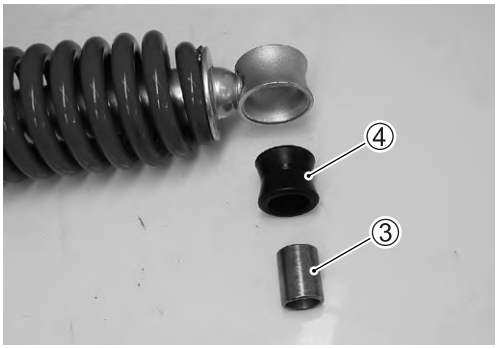
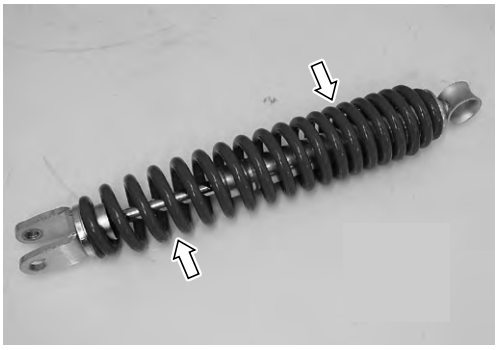
INSPECTION AND DISASSEMBLY

• Remove the spacer ③ and bushing ④.



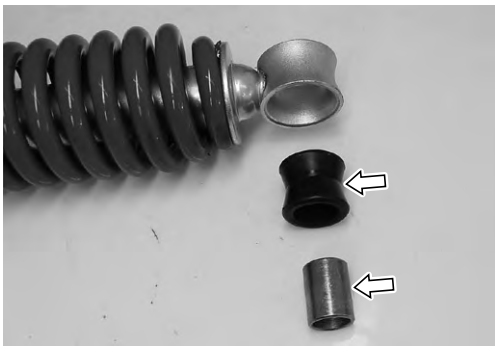
REAR SHOCK ABSORBER

Inspect the rear shock absorber for damage and oil leakage. If any defects are found, replace the rear shock absorber with a new one.



SPACER AND BUSHING

Inspect the spacer and bushing for wear and damage.
If any defects are found, replace the spacer or bushing with a new one.

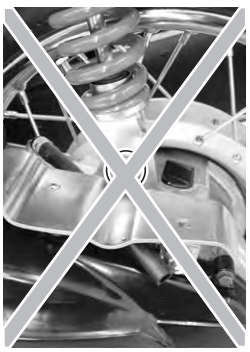


REASSEMBLY AND REMOUNTING

Reassemble and remount the rear shock absorber in the reverse order of removal and disassembly. Pay attention to the following points:

• Tighten the rear shock absorber mounting bolt and nut to the specified torque.

Rear shock absorber mounting bolt and nut:
29 N·m (2.9 kgf-m)



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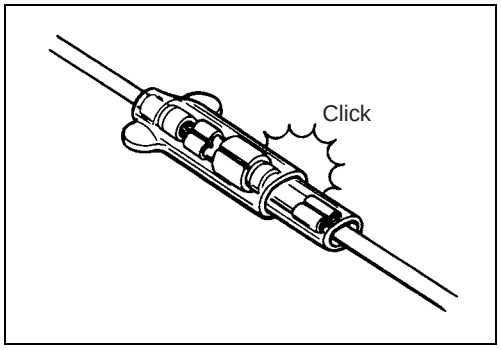
CAUTIONS IN SERVICING

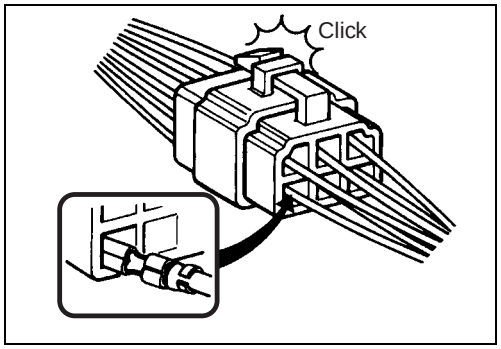
CONNECTOR

- When connecting a connector, be sure to push it in until a click is felt.
- Inspect the connector for corrosion, contamination and breakage in its cover.



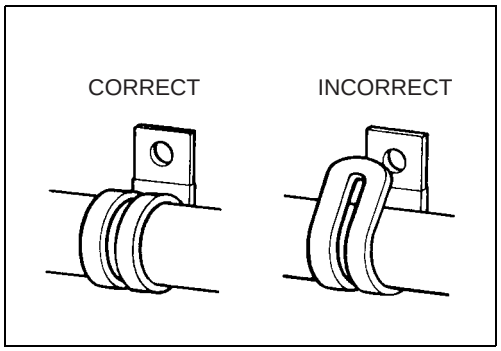
COUPLER

- With a lock type coupler, be sure to release the lock when disconnecting, and push in fully to engage the lock when connecting.
- When disconnecting the coupler, be sure to hold the coupler itself and do not pull the lead wires.
- Inspect each terminal on the coupler for being loose or bent.
- Inspect each terminal for corrosion and contamination.



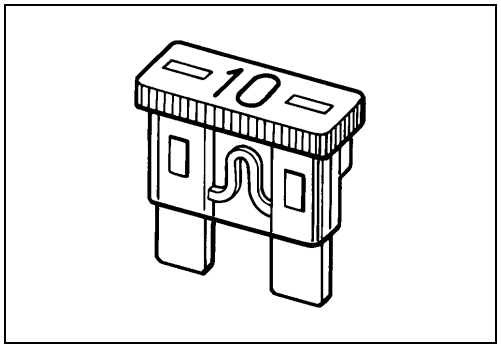
CLAMP

- Clamp the wire harness at such positions as indicated in “WIRING HARNESS ROUTING”. (☞7-12, -13)
- Bend the clamp properly so that the wire harness is clamped securely.
- In clamping the wire harness, use care not to allow it to hang down.
- Do not use wire or any other substitute for the band type clamp.



FUSE

- When a fuse blows, always investigate the cause to correct it and then replace the fuse.
- Do not use a fuse of a different capacity.
- Do not use wire or any other substitute for the fuse.



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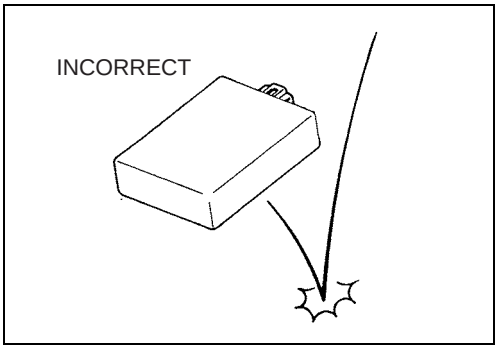
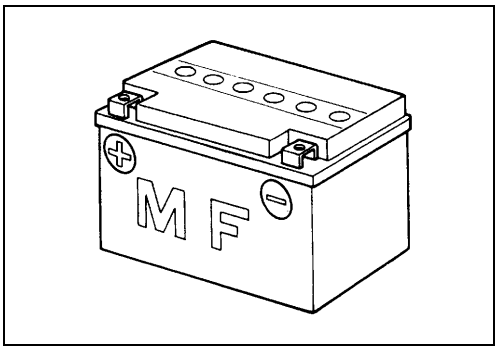
SEMI-CONDUCTOR EQUIPPED PART

- Be careful not to drop the part which has a semi-conductor built in such as a CDI unit and AC/DC rectifier.
- When inspecting these parts, follow the instructions carefully. Failure to follow the proper procedure can cause damage to these parts.



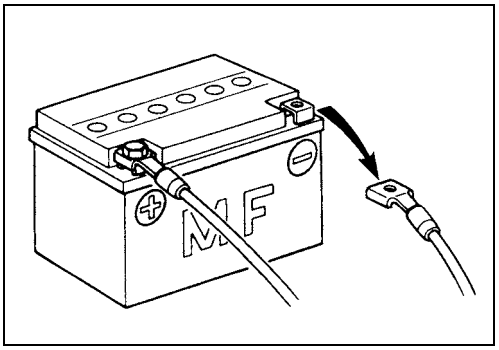
BATTERY

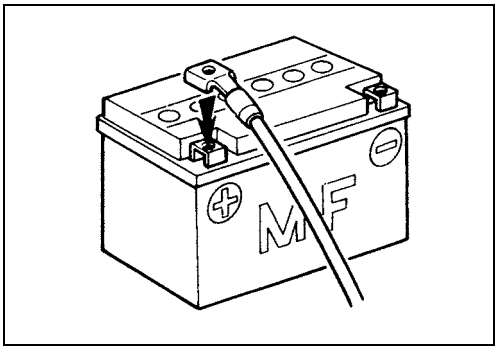
- The MF battery used in this motorcycle does not require maintenance (e.g., electrolyte level inspection, distilled water replenishment).
- During normal charging, no hydrogen gas is produced. However, if the battery is overcharged, hydrogen gas may be produced. Therefore, be sure there are no fire or spark sources (e.g., short circuit) nearby when charging the battery.
- Be sure to recharge the battery in a well-ventilated and open area.
- Note that the charging system for the MF battery is different from that of a conventional battery. Do not replace the MF battery with a conventional battery.



CONNECTING THE BATTERY

- When disconnecting terminals from the battery for disassembly or servicing, be sure to disconnect the ⊖ battery lead wire, first.
- When connecting the battery lead wires, be sure to connect the ⊕ battery lead wire, first.
- If the terminal is corroded, remove the battery, pour warm water over it and clean it with a wire brush.
- After connecting the battery, apply a light coat of grease to the battery terminals.
- Install the cover over the ⊕ battery terminal.





WIRING PROCEDURE

- Properly route the wire harness according to the “WIRING HARENESS ROUTING” section. (☞7-12, -13)

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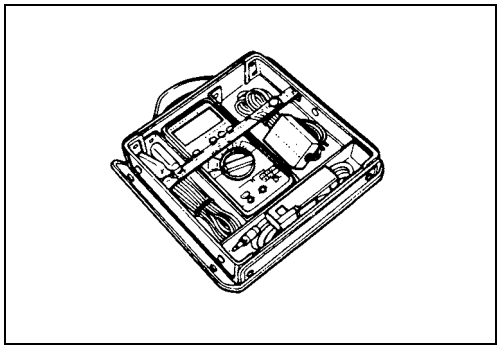
USING THE MULTI-CIRCUIT TESTER



- Properly use the multi-circuit tester ⊕ and ⊖ probes. Improper use can cause damage to the motorcycle and tester.
- If the voltage and current values are not known, begin measuring in the highest range.
- When measuring the resistance, make sure that no voltage is applied. If voltage is applied, the tester will be damaged.
- After using the tester, be sure to turn the switch to the OFF position.

TOOL 09900-25008: Multi-circuit tester set

CAUTION

Before using the multi-circuit tester, read its instruction manual.

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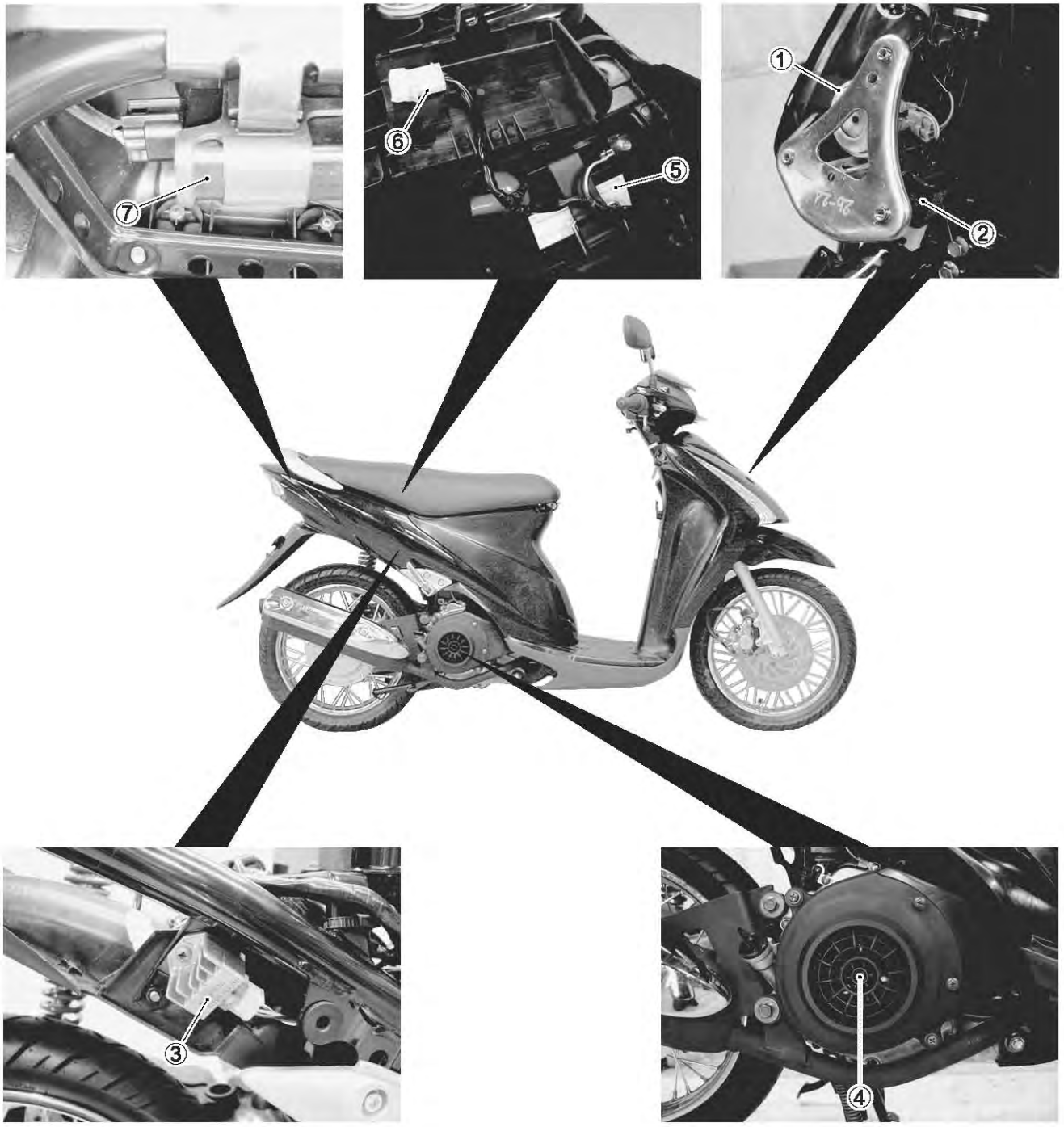
LOCATION OF ELECTRICAL COMPONENTS



① Horn
② Turn signal relay
③ Regulator/rectifier
④ Magneto
⑤ Battery
⑥ Fuse
⑦ CDI unit

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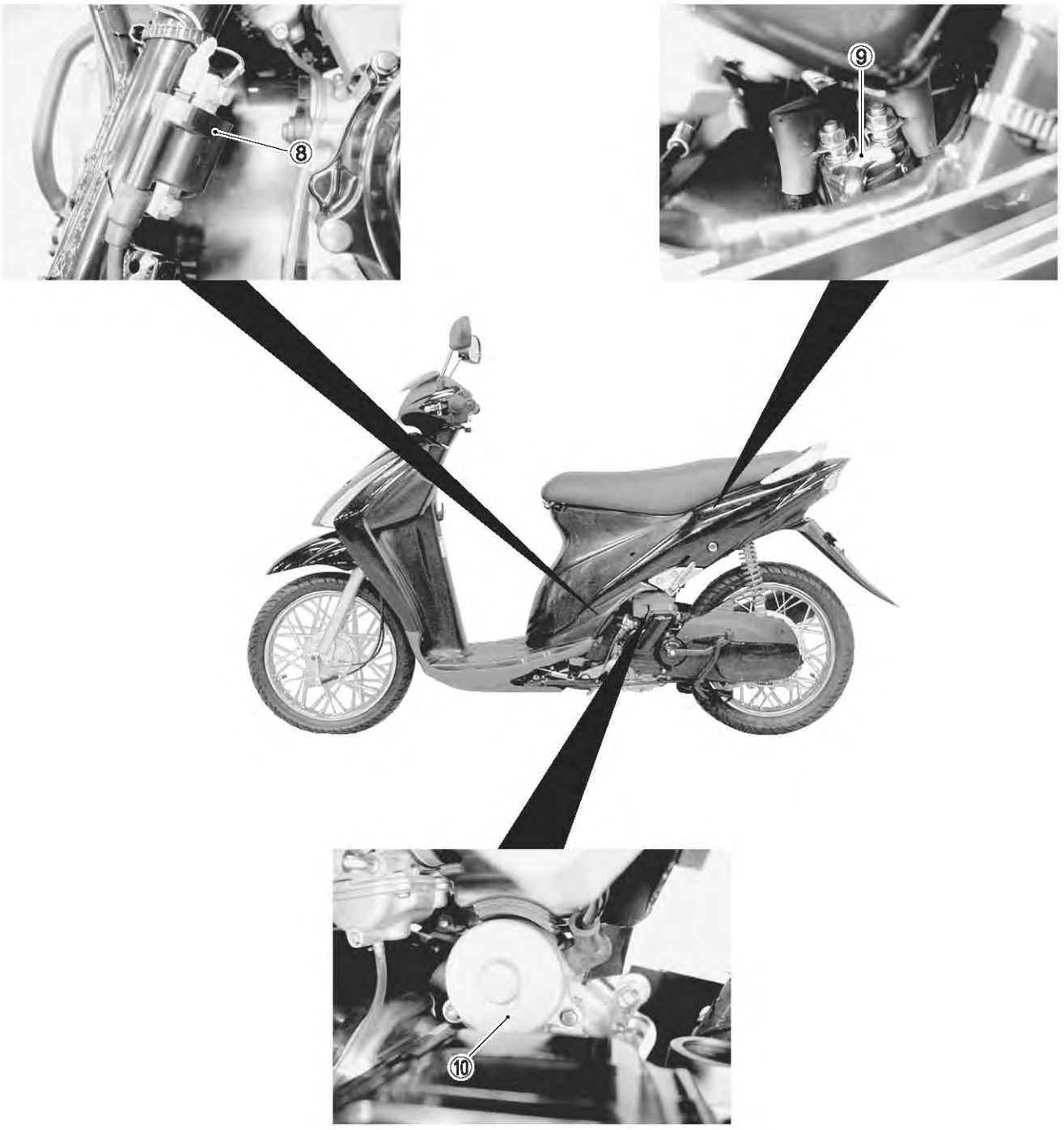

⑧ Ignition coil
⑨ Starter relay
⑩ Starter motor

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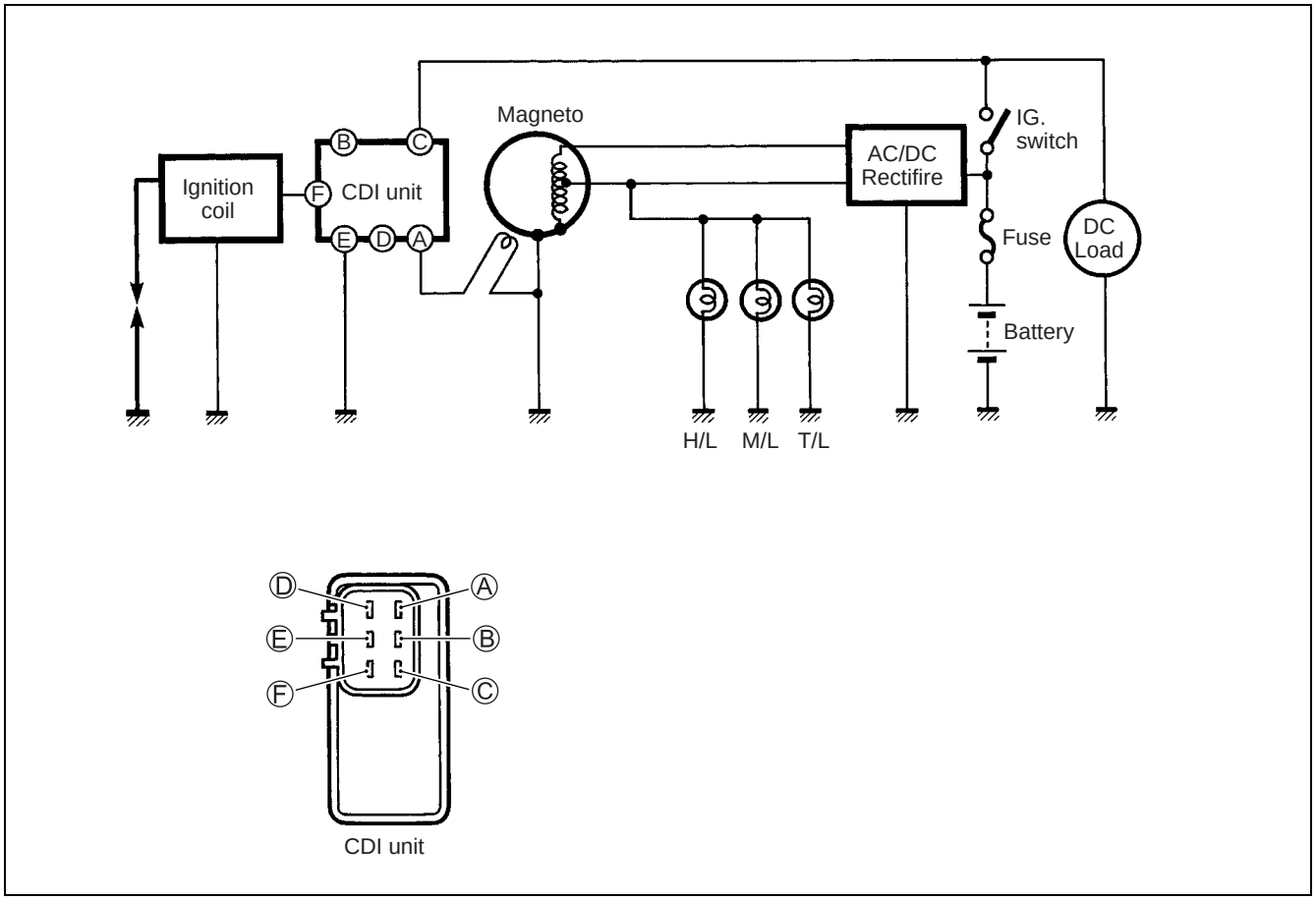
CHARGING AND LIGHTING SYSTEM



TROUBLESHOOTING

Battery runs down quickly.

Step 1

1) Check accessories which use excessive amounts of electricity.
   Are accessories being installed?

YES	Remove accessories.
NO	Go to Step 2.

Step 2

1) Check the battery for current leaks. (☞6-10)
   Is the battery for current leaks OK?

YES	Go to Step 3.
NO	• Short circuit of wire harness • Faulty electrical equipment

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Step 3

1) Measure the charging output between the battery terminals. (☞6-10)
   Is the charging output OK?

YES	• Faulty battery • Abnormal driving condition
NO	Go to Step 4.

Step 4

1) Measure the resistance of the stator coil. (☞6-11)
   Is the resistance of stator coil OK?

YES	Go to Step 5.
NO	• Faulty stator coil • Disconnected lead wires

Step 5

1) Measure the stator no-load performance. (☞6-11)
   Is the stator no-load performance OK?

YES	Go to Step 6.
NO	Faulty stator

Step 6

1) Inspect the AC/DC rectifier. (☞6-12)
   Is the AC/DC rectifier OK?

YES	Go to Step 7.
NO	Faulty AC/DC rectifier

Step 7

1) Inspect wirings.
   Is the wirings OK?

YES	Faulty battery
NO	• Short circuit of wire harness • Poor contact of couplers

Battery overcharges.

- Faulty AC/DC rectifier
- Faulty battery
- Poor contact of stator lead wire coupler

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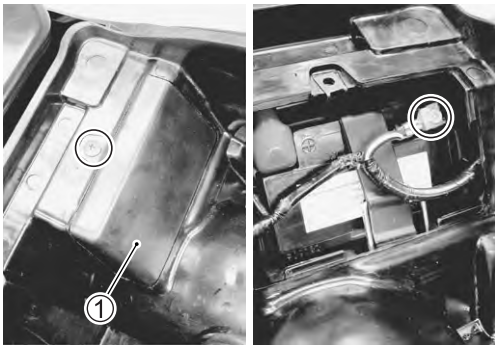
INSPECTION

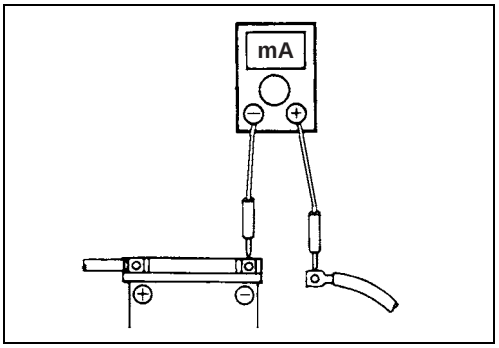
BATTERY CURRENT LEAKAGE

- Turn the ignition switch to the OFF position.
- Open the seat. (☞5-8)
- Remove the battery box lid ①.
- Disconnect the battery ⊖ lead wire.
- Measure the current between ⊖ battery terminal and the ⊖ battery lead wire using the multi-circuit tester. If the reading exceeds the specified value, leakage is evident.



09900-25008: Multi-circuit tester set

Tester knob indication: Current (⎓, 20 mA)



Battery current (leak): Under 1 mA

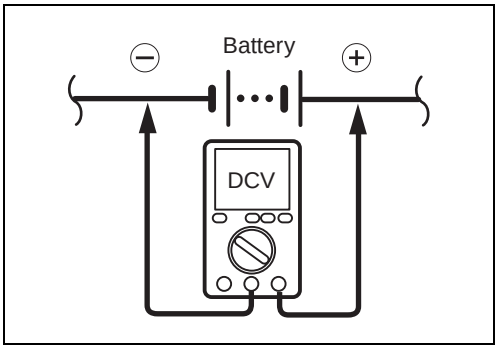
CAUTION

*** In case of a large current leak, turn the tester to high range first to avoid tester damage.**
*** Do not turn the ignition switch to the "ON" position when measuring current.**

CHARGING OUTPUT

- Open the seat. (☞5-8)
- Remove the battery box lid. (☞above)
- Start the engine and keep it running at 5 000 rpm with the dimmer switch turned HI position.
- Measure the DC voltage between the ⊕ and ⊖ battery terminals using the multi-circuit tester. If the voltage is not within the specified value, inspect the stator coil and AC/DC rectifier. (☞6-11, -12)

NOTE:
When making this test, be sure that the battery is in fully-charged condition.



09900-25008: Multi-circuit tester set

Tester knob indication: Voltage (⎓)

Charging output (Regulated voltage):
13.5 – 15.2 V at 5 000 rpm

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STATOR COIL RESISTANCE

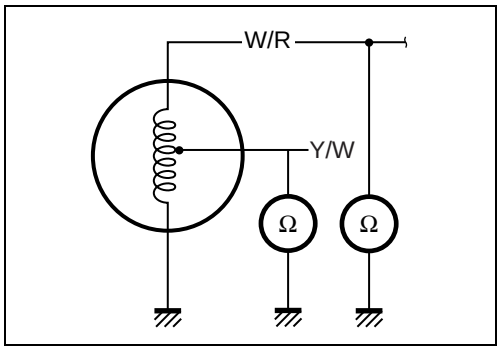
- Remove the frame front cover. (☞5-8)
- Disconnect the stator coupler.

Measure the resistance between the lead wires using the multi-circuit tester. If the resistance is not within the specified value, replace the stator coil with a new one.

TOOL 09900-25008: Multi-circuit tester set

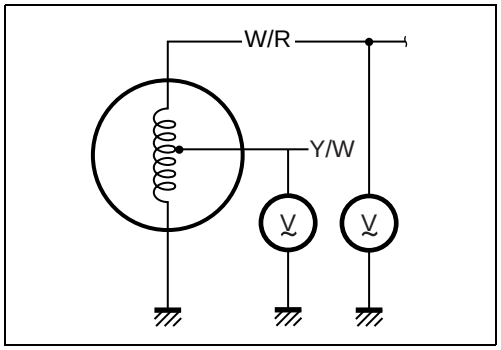
Tester knob indication: Resistance (Ω)

DATA Stator coil resistance
Charge side: 0.6 – 1.1 Ω (White/Red – Ground)
Lamp side: 0.4 – 0.9 Ω (Yellow/White – Ground)



STATOR NO-LOAD PERFORMANCE

- Remove the frame front cover. (☞5-8)
- Disconnect the stator coupler. (☞above)
- Start the engine and keep it running at 5 000 rpm.
- Using the multi-circuit tester, measure the voltage between two lead wires.
  I the tester reads under the specified value, replace the stator coil with a new one.



TOOL 09900-25008: Multi-circuit tester set

Tester knob indication: Voltage (~)

DATA Stator no-load performance
Charge side: 6 V and more at 5 000 rpm
(When engine is cold)
Lamp side: 4 V and more at 5 000 rpm
(When engine is cold)

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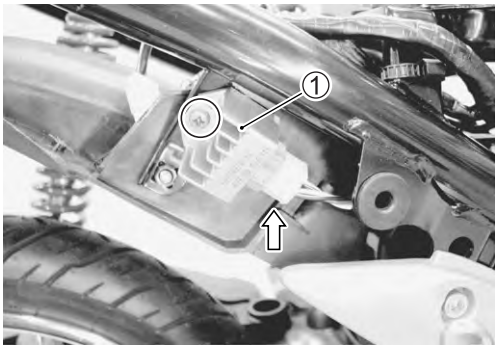
AC/DC RECTIFIER

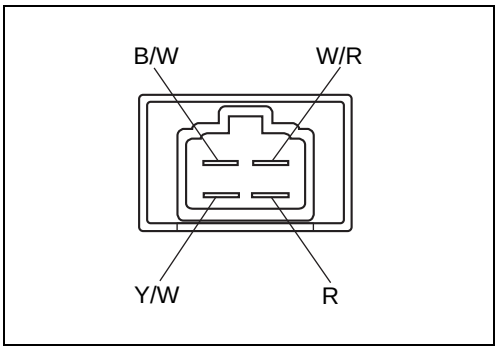
- Remove the frame cover assembly. (☞5-11)
- Disconnect the AC/DC rectifier coupler.
- Remove the AC/DC rectifier ①.

Measure the voltage between the terminals using the multi-circuit tester, as indicated in the table below. If voltage is not within the specified value, replace the AC/DC rectifier with a new one.

TOOL 09900-25008: Multi-circuit tester set

Tester knob indication: Diode test (⊣◀)





Unit: V

⊖ Tester probe	⊕ Tester probe				
		Y/W	B/W	W/R	R
Y/W		1.0 – 1.6	✻	✻	
B/W	1.0 – 1.6		✻	✻	
W/R	✻	✻		0.9 – 1.4	
⊖ R	✻	✻	0.9 – 1.4		

✻1.4 V and more (tester's battery voltage)

NOTE:

If the tester reads 1.4 V and below when the tester probes are not connected, replace its battery.

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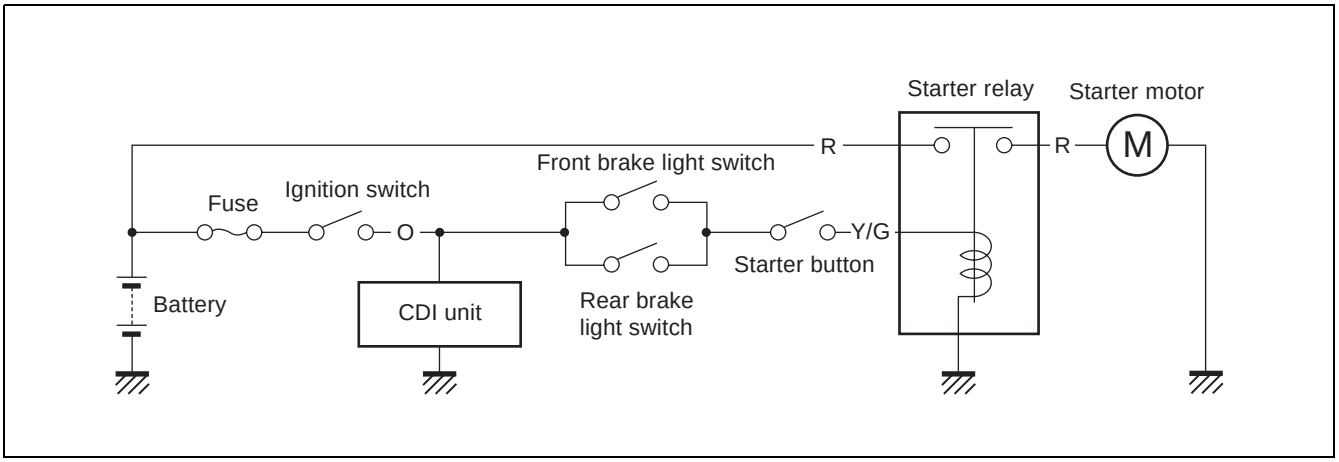
STARTER SYSTEM



TROUBLESHOOTING

Make sure that the fuse is not blown and the battery is fully-charged before diagnosing.

Starter motor will not run.

Step 1

1) Turn the ignition switch to the “ON” position.
2) Grasp the front or rear brake lever. Listen for a click from the starter relay when the starter button is pushed.
   Is a click sound heard?

YES	Go to Step 2.
NO	Go to Step 3.

Step 2

1) Check if the starter motor runs when its terminal is connected to the battery ⊕ terminal. (Do not use thin “wire” because a large amount of current flows.)
   Does the starter motor run?

YES	• Faulty starter relay • Loose or disconnected starter motor lead wire • Loose or disconnected between starter relay and battery ⊕ terminal
NO	Faulty starter motor

Step 3

1) Measure the starter relay voltage at the starter relay connectors (between Y/G ⊕ and B/W ⊖) when the starter button is pushed.
   Is a voltage OK?

YES	Go to Step 4.
NO	• Faulty starter button • Faulty ignition switch • Faulty brake light switches (front and rear brakes) • Poor contact of connector • Open circuit in wire harness

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Step 4

1) Check the starter relay. (☞6-20)
   Is the starter relay OK?

YES	Poor contact of the starter relay
NO	Faulty starter relay

Starter motor runs but does not crank the engine.

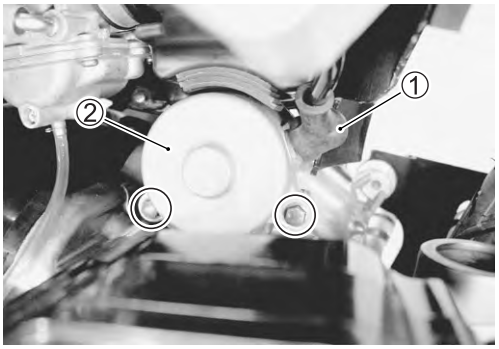
Step 1

1) Check the starter clutch.
   Is the starter clutch OK?

YES	Faulty starter motor
NO	Faulty starter clutch

STARTER MOTOR REMOVAL

- Disconnect the battery ⊖ lead wire.
- Remove the cooling fan duct. (☞3-44)
- Remove the crankcase grommet No.1 and No.2. (☞3-10)
- Disconnect the starter motor lead wire ①.
- Remove the starter motor ②.



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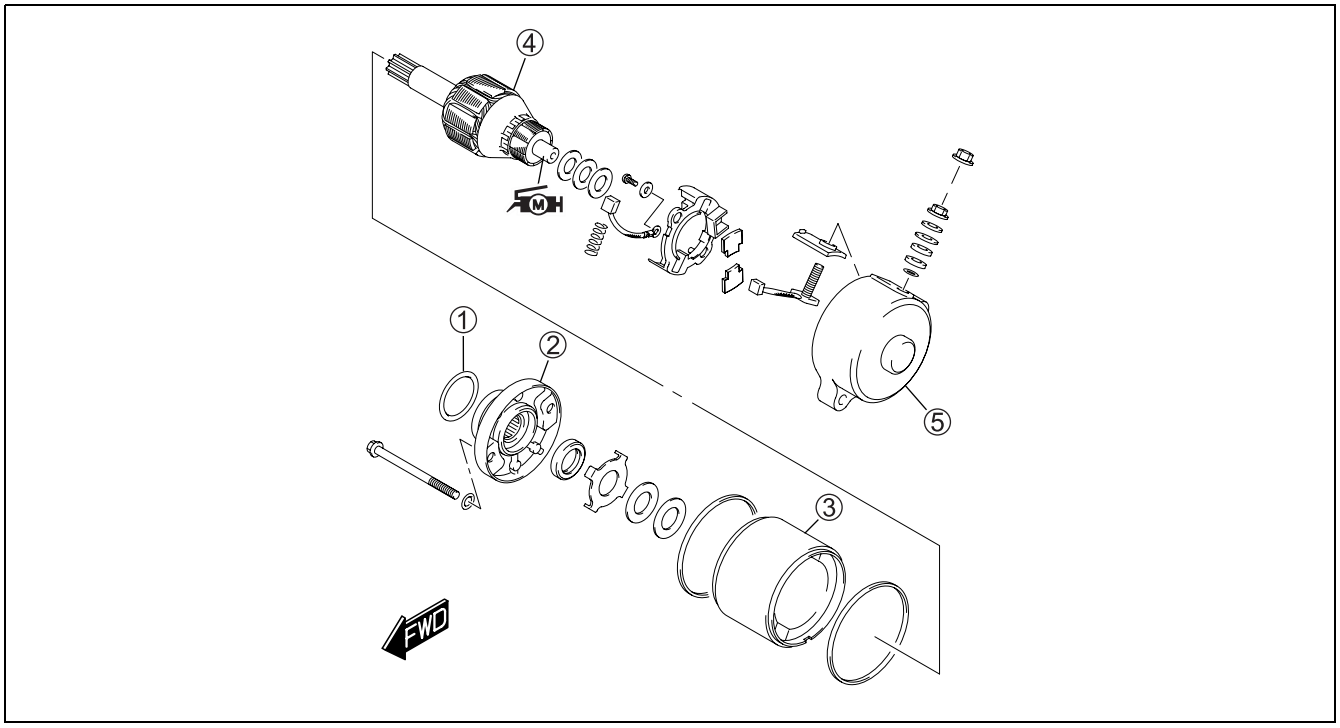
STARTER MOTOR DISASSEMBLY

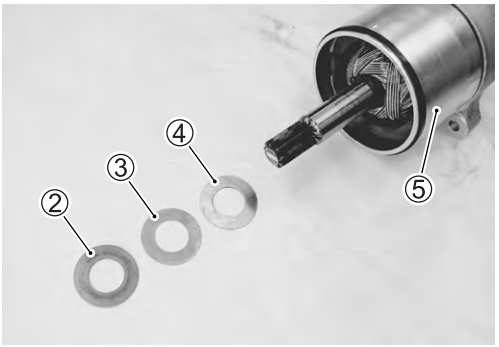
• Disassemble the starter motor as shown in the illustration.



①	O-ring	④	Armature
②	Housing end (inside)	⑤	Housing end (outside)
③	Starter motor case		

• Remove the housing end (inside) ①.

• Remove the slip washer ②, thrust washer ③ (t: 0.2), thrust washer ④ (t: 0.5) and starter motor case ⑤.



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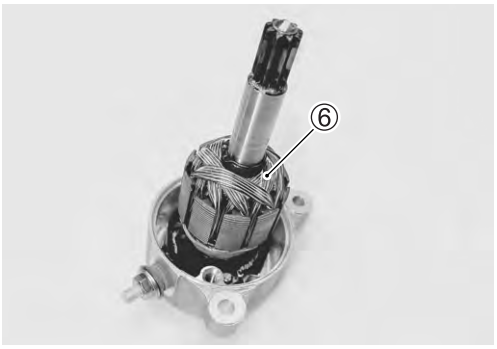
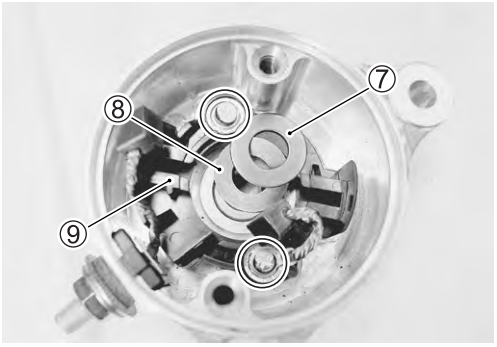
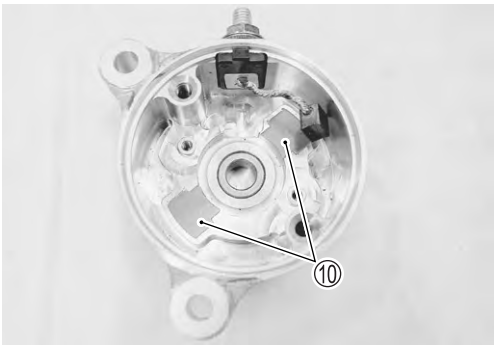
- Remove the armature ⑥.



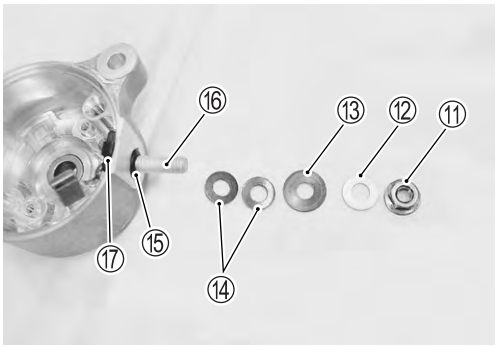
- Remove the thrust washer ⑦ (t: 0.8), thrust washer ⑧ (t: 0.2) and brush holder ⑨.



- Remove the insulators ⑩.



- Remove the nut ⑪, washer ⑫, slip washer No.1 ⑬, slip washers No.2 ⑭, O-ring ⑮, brush ⑯ and terminating holder ⑰.



- Remove the supporter ⑱.

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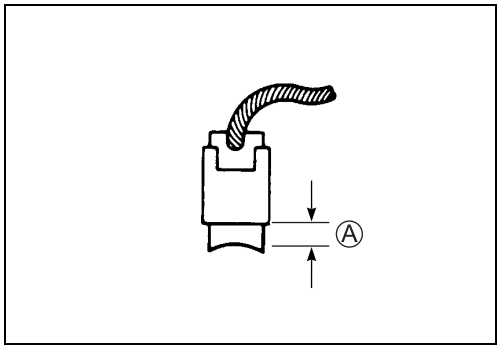
STARTER MOTOR INSPECTION

CARBON BRUSH

Inspect the brushes for abnormal wear, cracks, or smoothness in the brush holder.

If any defects are found, replace the brush assembly with a new one.

Make sure that the length Ⓐ is not less than 3.5 mm, If this length becomes less than 3.5 mm, replace the brush.



DATA Starter motor brush length
Service Limit: 3.5 mm

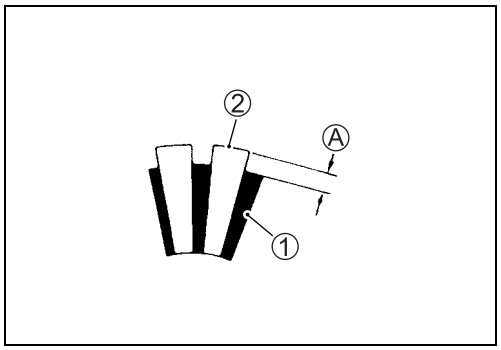
COMMUTATOR

Inspect the commutator for discoloration, abnormal wear or undercut Ⓐ.

If abnormal wear is found, replace the armature with a new one.

If the commutator surface is discolored, polish it with #400 sand paper and wipe it using a clean dry cloth.

If there is no undercut, scrape out the insulator with a saw blade.

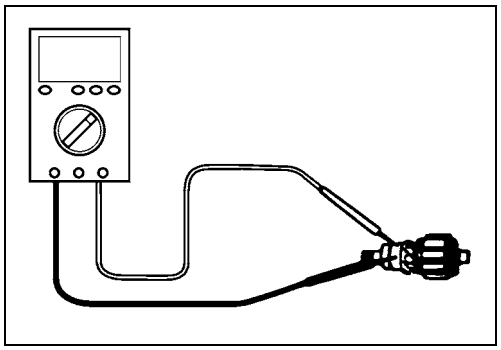


① Insulator
② Segment

ARMATURE COIL

Check for continuity between each segment and between each segment and the armature shaft using the multi-circuit tester.

If there is no continuity between the segments or there is continuity between the segments and shaft, replace the armature with a new one.



TOOL 09900-25008: Multi-circuit tester set

Tester knob indication: Continuity test (•))))

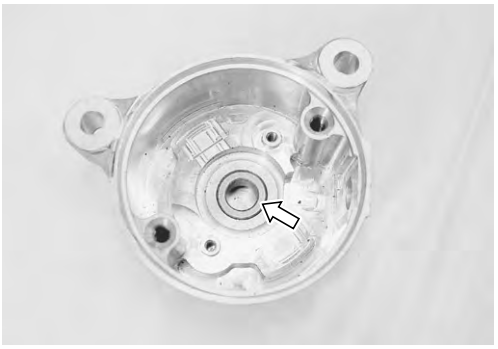
OIL SEAL AND BEARING

Check the oil seal lip for damage or leakage.

Check the bearing for abnormal noise and smooth movement.

If any defects are found, replace the housing end (inside).

BUSHING
Check the bushing for wear and damage.
If any defects are found, replace the housing end (outside).



STARTER MOTOR REASSEMBLY

Reassemble the starter motor in the reverse order of disassembly. Pay attention to the following points:

- Apply SUZUKI SUPER GREASE “A” to the lip of the oil seal and bearing.

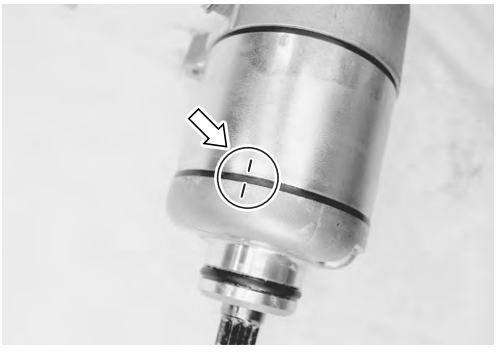
99000-25010: SUZUKI SUPER GREASE “A”

- Apply a small quantity of SUZUKI MOLY PASTE to the armature shaft.

99000-25140: SUZUKI MOLY PASTE

- Fit the depression of the starter motor case to the projection of the terminating holder.

- Align the line on the starter motor case with the line on the housing end (inside).



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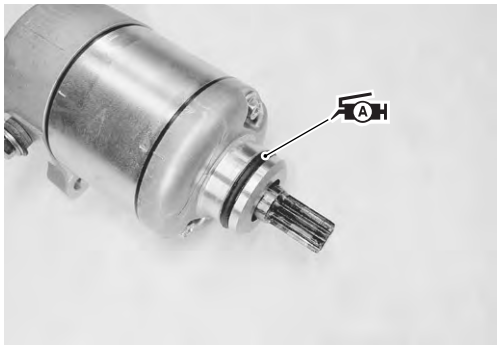
- Apply SUZUKI SUPER GREASE to the O-ring.

99000-25010: SUZUKI SUPER GREASE "A"



- Install the crankcase grommet No.1 and No.2. (☞3-72)
- Install the cooling fan duct. (☞3-45)

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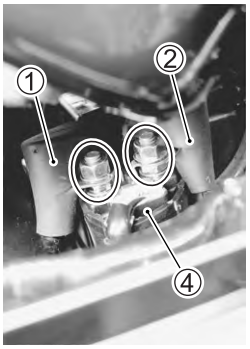
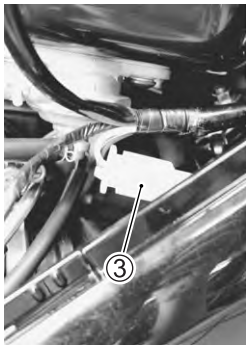
STARTER RELAY INSPECTION

- Remove the luggage box. (☞5-9)
- Disconnect the battery ⊖ lead wire from the battery.
- Disconnect the starter motor lead wire ①, battery lead wire ② and starter relay coupler ③.
- Remove the starter relay ④.

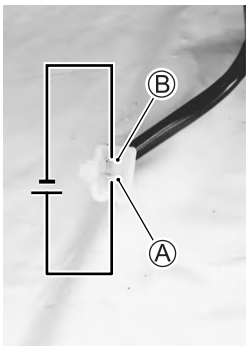




- Apply 12 V to Ⓐ and Ⓑ terminals and check for continuity between the positive ⊕ and negative ⊖ terminals using the multi-circuit tester. If the starter relay clicks and continuity is found, the relay is OK.

09900-25008: Multi-circuit tester set

Tester knob indication: Continuity test (•))))



CAUTION

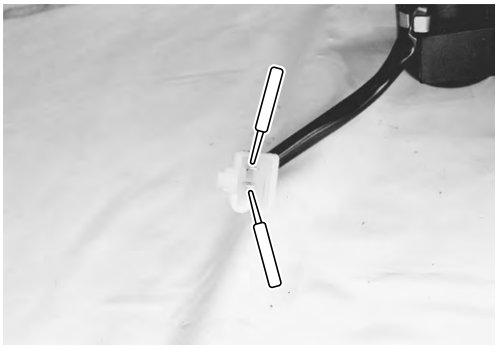
Do not apply battery voltage to the starter relay for more than five seconds, since the relay coil may overheat and get damaged.

Measure the relay coil resistance between the terminals using the multi-circuit tester. If the resistance is not within the specified value, replace the starter relay with a new one.

09900-25008: Multi-circuit tester set

Tester krob indication: Resistance (Ω)

Starter relay resistance: 3 – 6 Ω



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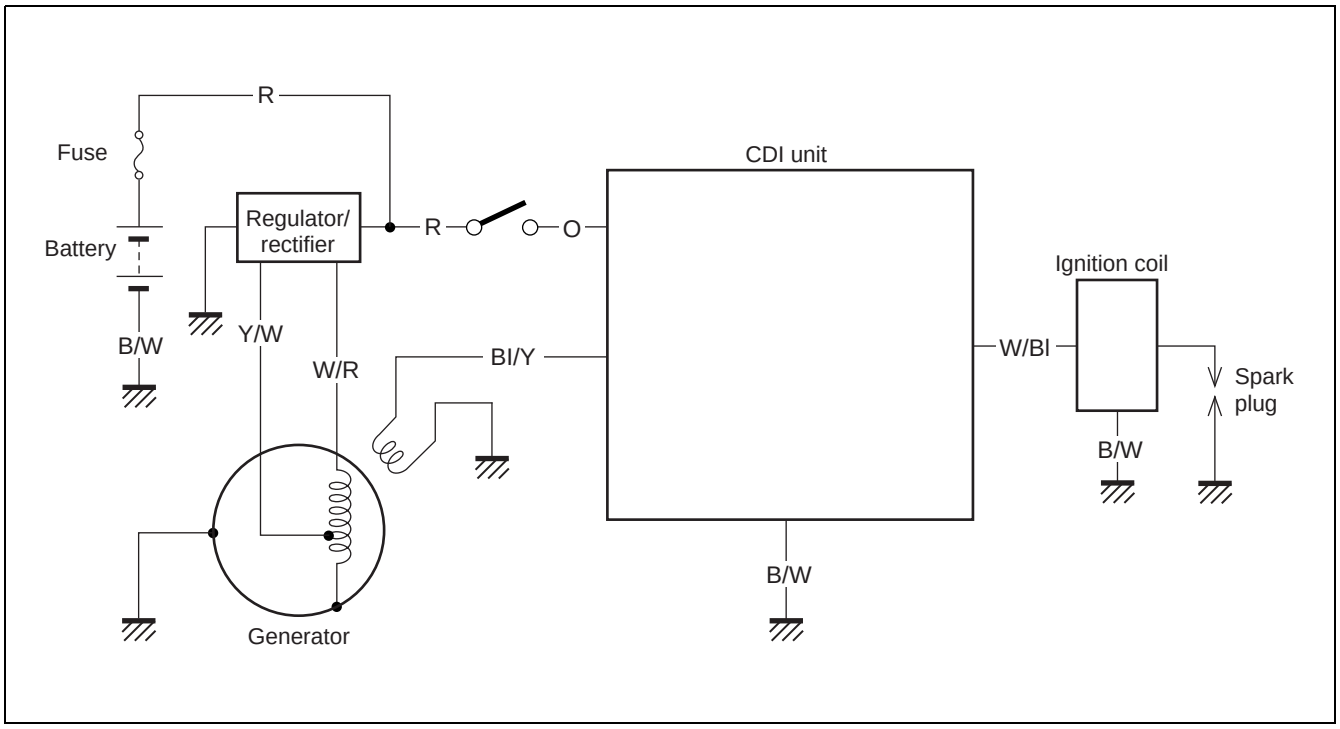
IGNITION SYSTEM



TROUBLESHOOTING

NOTE:

** Make sure that the fuse is not blown and the battery is fully-charged before diagnosing.*

No spark or poor spark

Step 1

1) Check the ignition system couplers for poor connections.
   Is there connection in the ignition switch couplers?

YES	Go to Step 2.
NO	Poor connection of couplers

Step 2

1) Measure the battery voltage between input lead wires (O and B/W) at the CDI unit with the ignition switch in the “ON” position.
   Is the voltage OK?

YES	Go to Step 3.
NO	• Faulty ignition switch • Faulty wire harness • Broken wire harness or poor connection of related circuit couplers

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Step 3
1) Measure the ignition coil primary peak voltage. (☞6-23)

NOTE:
This inspection method is applicable only with the multi-circuit tester and the peak volt adaptor.

Is the peak voltage and its resistance OK?

YES	Go to Step 4.
NO	Go to Step 5.

Step 4
1) Inspect the spark plug. (☞2-7)
Is the spark plug OK?

YES	• Poor connection of the spark plug • Go to Step 5.
NO	Faulty spark plug

Step 5
1) Inspect the ignition coil. (☞6-24)
Is the ignition coil OK?

YES	Go to Step 6.
NO	• Poor connection of the ignition coil • Faulty ignition coil

Step 6
1) Measure the pickup coil peak voltage and its resistance. (☞6-24, -25)

NOTE:
The pickup coil peak voltage inspection is applicable only with the multi-circuit tester and peak volt adaptor.

Is the peak voltage and its resistance OK?

YES	• Faulty CDI unit • Open or short circuit in wire harness • Poor connection of ignition couplers
NO	Faulty pickup coil

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INSPECTION

IGNITION COIL PRIMARY PEAK VOLTAGE

- Remove the leg rear shield. (☞5-8)
- Remove the spark plug cap.
- Connect a new spark plug to the spark plug cap and ground it to the cylinder head cover.

NOTE:
Make sure that the spark plug cap and spark plug are connected properly.

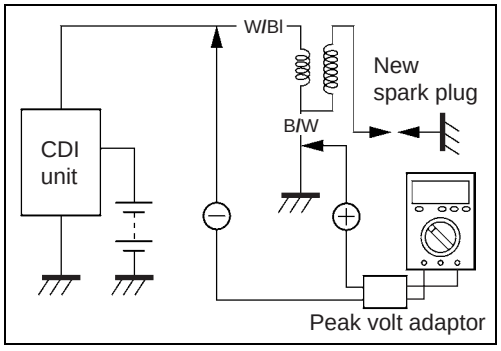
Measure ignition coil primary peak voltage using the multi-circuit tester in the following procedure.

- Connect the multi-circuit tester with the peak voltage adaptor as follows.

  ⊕ **Probe: Black/White lead wire**
  ⊖ **Probe: White/Blue lead wire**

NOTE:
Do not disconnect the ignition coil lead wires.

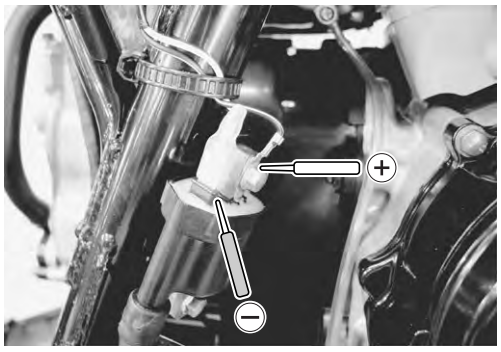
09900-25008: Multi-circuit tester set



CAUTION

Before using the multi-circuit tester and peak volt adaptor, be sure to refer to the appropriate instruction manual.

- Turn the ignition switch to the “ON” position.
- Squeez the brake lever.
- Press the starter button and allow the engine to crank for a few seconds, and then measure the ignition coil primary peak voltage.
- Repeat the above procedure a few times and measure the highest ignition coil primary peak voltage.



Tester knob indication: Voltage (⎓)

Ignition coil primary peak voltage: 150 V and more

⚠ WARNING

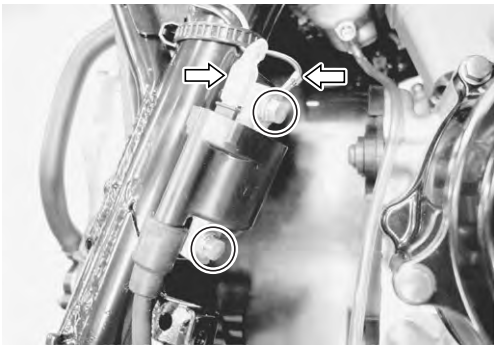
While testing, do not touch the tester probes and spark plug to prevent receiving an electric shock.

If the voltage is lower than the specified values, inspect the ignition coil. (☞6-24)

IGNITION COIL RESISTANCE

- Remove the leg rear shield. (☞5-8)
- Disconnect the ignition coil lead wires and spark plug cap.
- Remove the ignition coil.

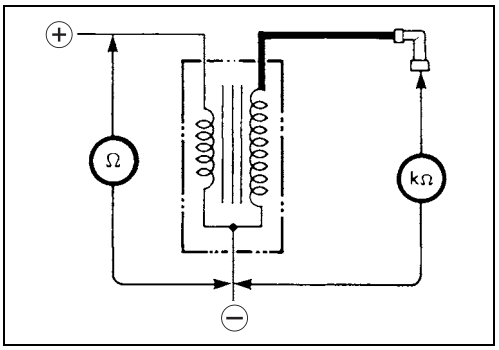
Measure the ignition coil resistance in both the primary and secondary windings using the multi-circuit tester. If the resistance in both the primary and secondary windings is close to the specified values, the windings are in sound condition.



TOOL 09900-25008: Multi-circuit tester set

Tester knob indication: Resistance (Ω)

DATA Ignition coil resistance
Primary: 0.2 – 0.9 Ω (⊕ Tap – ⊖ Tap)
Secondary: 11 – 20 kΩ (Spark plug cap – ⊖ Tap)



PICKUP COIL PEAK VOLTAGE

- Remove the luggage box. (☞5-9)

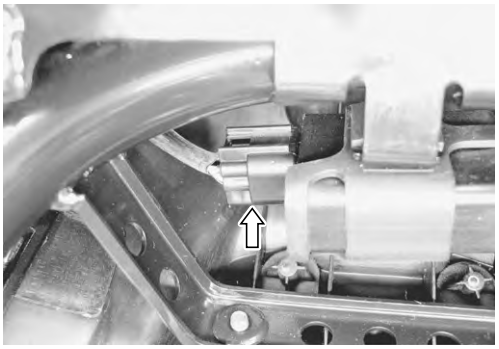
NOTE:
Make sure that all of the couplers are connected properly and the battery is fully charged.

- Disconnect the CDI unit coil coupler.

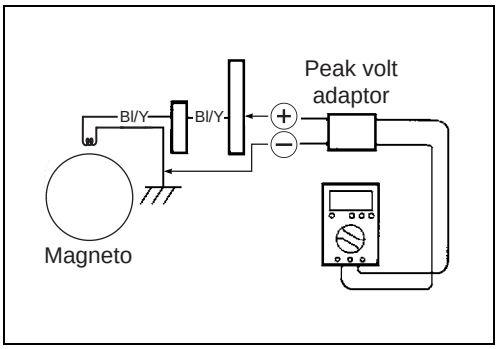
Measure the pickup coil peak voltage in the following procedure.

- Connect the multi-circuit tester with the peak volt adaptor as follows.

  ⊕ Probe: Blue/Yellow lead wire
  ⊖ Probe: Ground



TOOL 09900-25008: Multi-circuit tester set



CAUTION

Before using the multi-circuit tester and peak volt adaptor, be sure to refer to the appropriate instruction manual.

- Turn the ignition switch to the “ON” position.

Measure the pickup coil peak voltage while squeezing the front or rear brake lever and pressing the starter button to turn the engine for a few seconds.

- Repeat the above procedure a few times and measure the highest pickup coil peak voltage.

Tester knob indication: Voltage (⎓)

DATA Pickup coil peak voltage: 2.0 V and more

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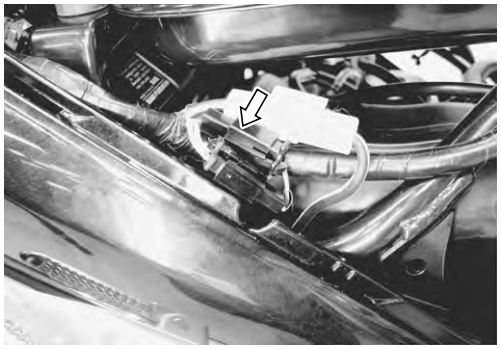
If the peak voltage measured on the CDI unit coupler is lower than the standard value, measure the peak voltage on the pickup coil coupler as follows.

- Remove the frame front cover. (☞5-8)
- Disconnect the pickup coil coupler.
- Connect the multi-circuit tester with the peak volt adaptor as follows.

  ⊕ **Probe: Blue/Yellow lead wire**
  ⊖ **Probe: Ground**

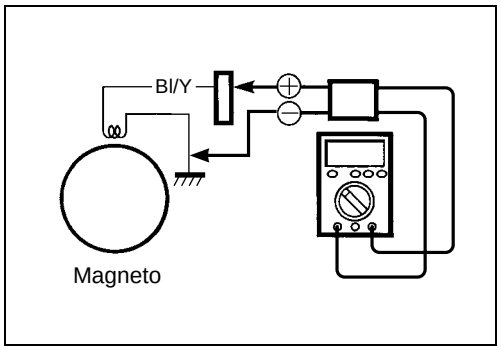


Measure the pickup coil peak voltage in the same manner as on the CDI unit coupler.

09900-25008: Multi-circuit tester set

Tester knob indication: Voltage (⎓)

Pickup coil peak voltage: 2.0 V and more

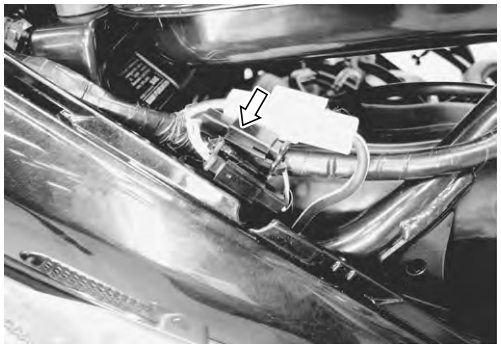


If the peak voltage on the pickup coil coupler is within specification, but on the CDI unit coupler is not within specification, replace the wire harness with a new one. If both peak voltages are out of specification, replace the pickup coil with a new one.

PICKUP COIL RESISTANCE

- Remove the frame front cover. (☞5-8)
- Disconnect the pickup coil coupler.

Measure the resistance between the lead wires using the multi-circuit tester. If the resistance is not within the specified value, the pickup coil must be replaced.



09900-25008: Multi-circuit tester set

Tester knob indication: Resistance (Ω)

Pickup coil resistance:

180 – 280 Ω (Blue/Yellow – Ground)

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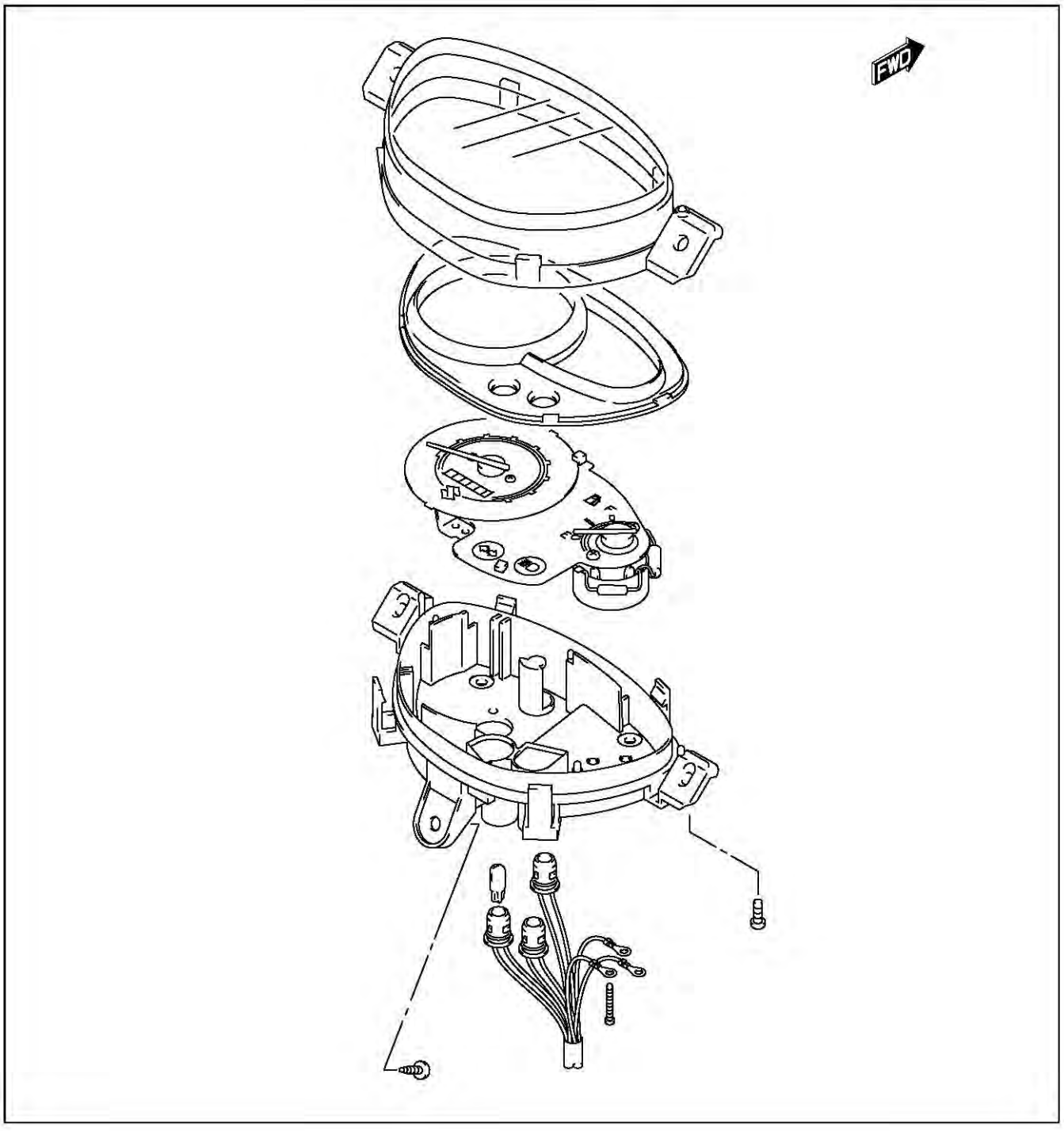
SPEEDOMETER

REMOVAL AND DISASSEMBLY

- Remove the handlebar covers. (☞5-5)
- Remove the speedometer.
- Disassemble the speedometer, as shown.



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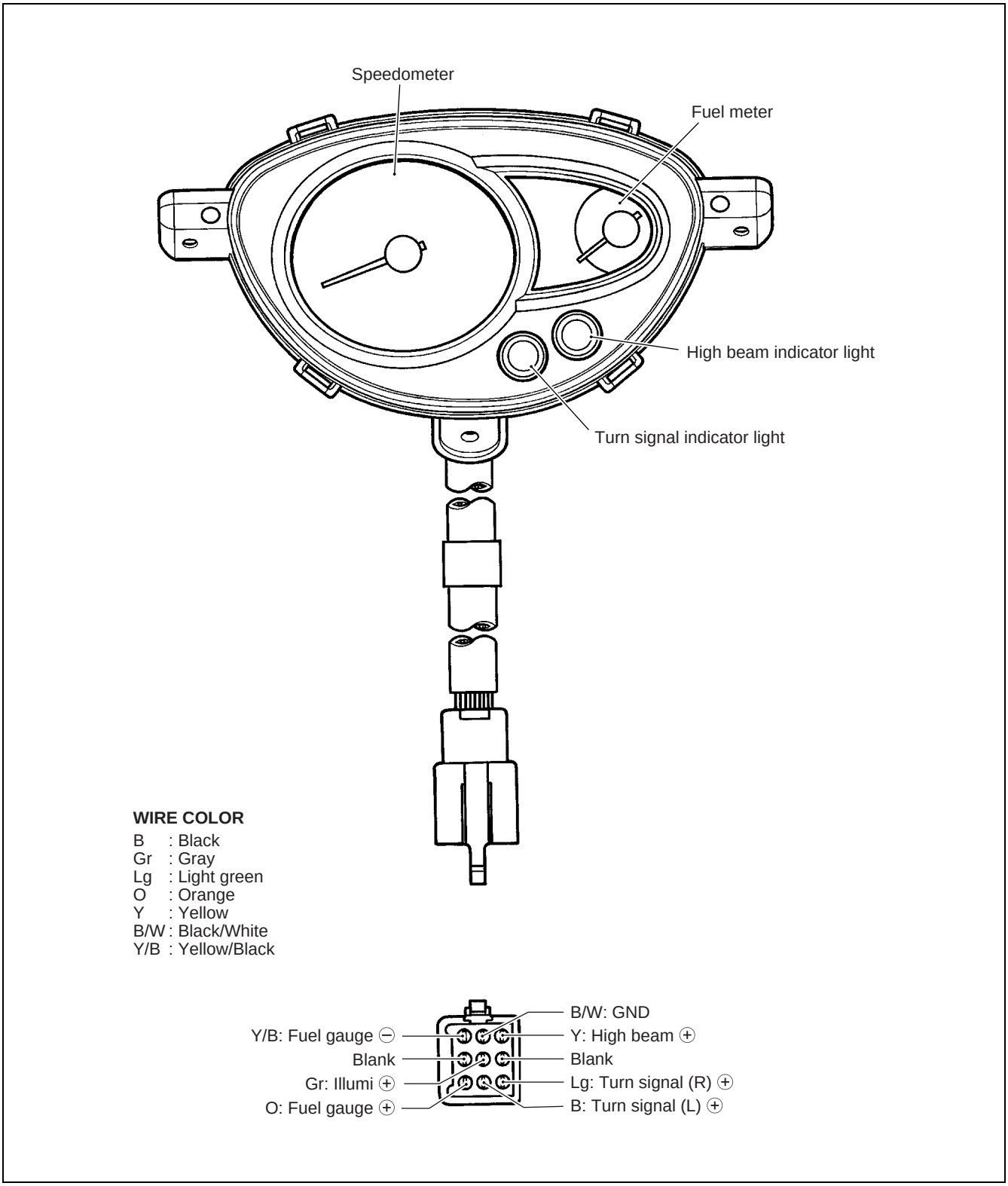
INSPECTION

Check the continuity between the lead wires using the multi-circuit tester. If there is no continuity replace the respective parts.

09900-25008: Multi-circuit tester set

Tester knob indication: Continuity test (•))))



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FUEL METER AND FUEL LEVEL GAUGE

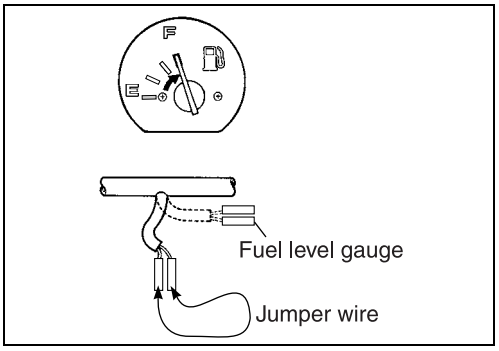
FUEL METER INSPECTION

To test the fuel meter, perform the following tests.

Test 1

This test will determine if the fuel meter is operating.

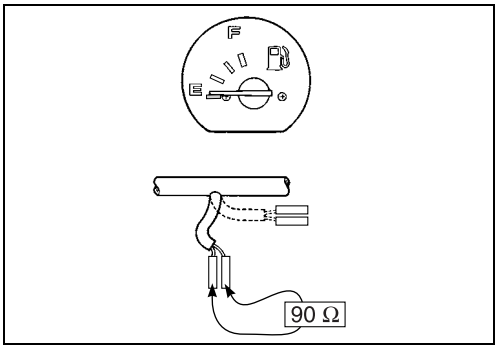
- Open the seat. (☞5-8)
- Disconnect the fuel level gauge coupler. (☞4-2)
- Connect a jumper wire between the Y/B and B/W lead wires coming from the wire harness.
- Turn the ignition switch to the “ON” position.
- The fuel meter should indicate “F” (full).



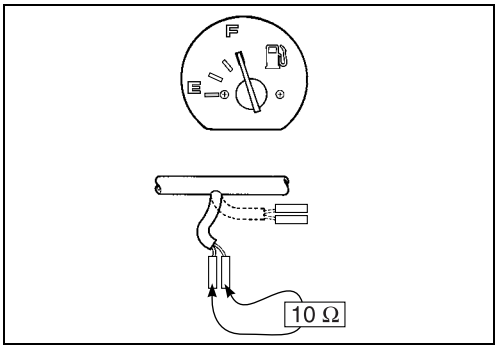
Test 2

This test will determine the accuracy of the fuel meter in the “E” (empty) and “F” (full) positions.

- Connect a 90-ohm resistor between the Y/B and B/W lead wires.
- The fuel meter is operating correctly if the needle moves to “E” (empty) when the ignition switch is turned on.



- Replace the 90-ohm resistor with a 10-ohm resistor.
- The fuel meter is operating correctly if the needle moves to “F” (full) when the ignition switch is turned on.
- If either test detects a malfunctioning fuel meter, replace the fuel meter with a new one.



FUEL LEVEL GAUGE INSPECTION

☞4-6

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RELAYS

TURN SIGNAL RELAY

The turn signal relay is located behind the front leg shield.

INSPECTION

Before removing the turn signal relay, check the operation of the turn signal light.

If the turn signal light does not illuminate, inspect the bulb, turn signal switch and circuit connection.

If the bulb, turn signal switch and circuit connection are OK, the turn signal relay may be faulty. In this case, replace the turn signal relay with a new one.

NOTE:

Make sure that the battery is fully charged.

STARTER RELAY

☞6-20

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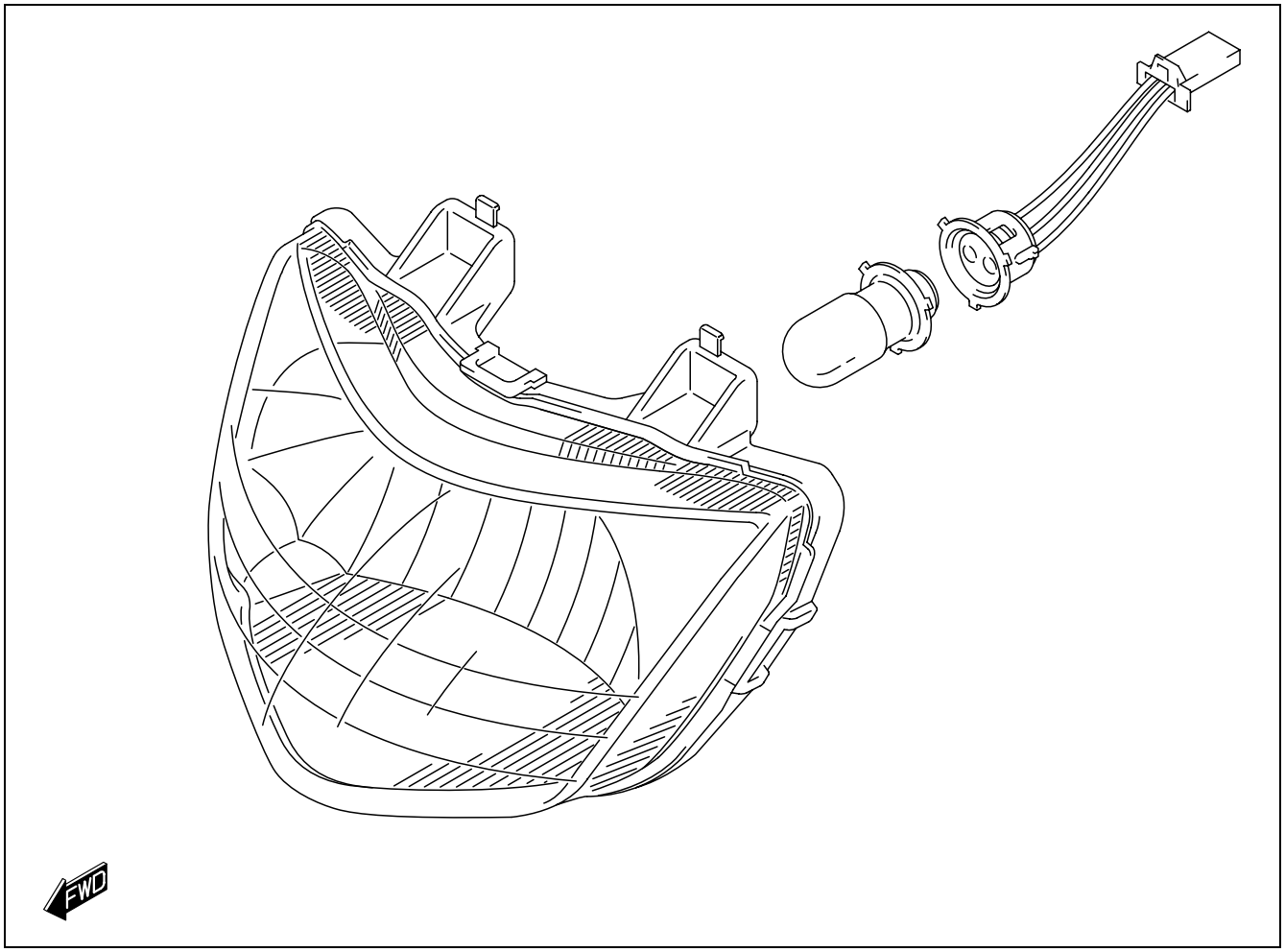
LAMPS
HEADLIGHT



Headlight bulb: 12 V 30/30 W

HEADLIGHT BULB REPLACEMENT

- Remove the front handlebar cover. (☞5-5)
- Remove the headlight bulb.

CAUTION

If you touch the bulb with your bare hands, clean the bulb with a cloth moistened with alcohol or soapy water to prevent premature bulb failure.

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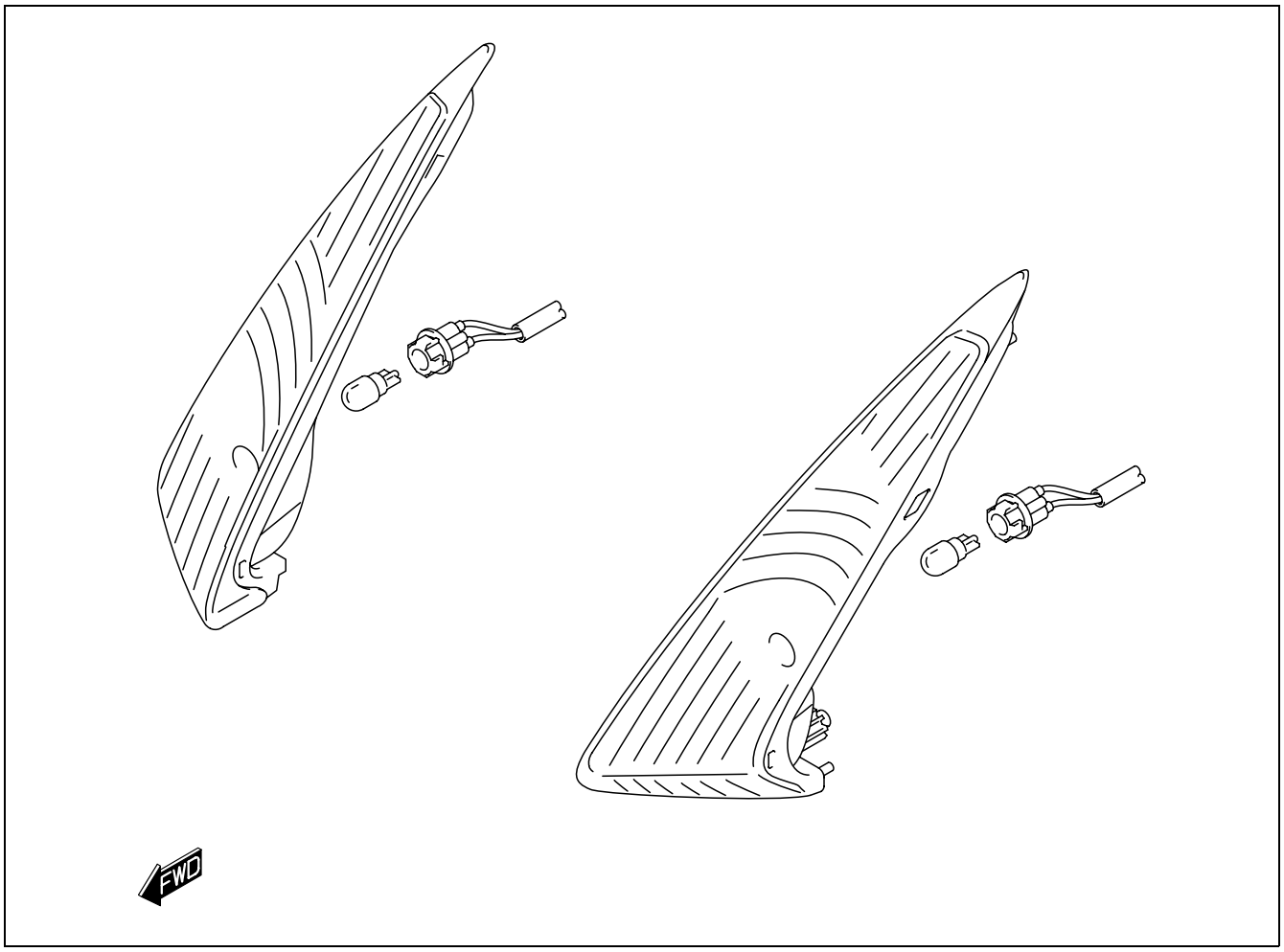
FRONT TURN SIGNAL LIGHT



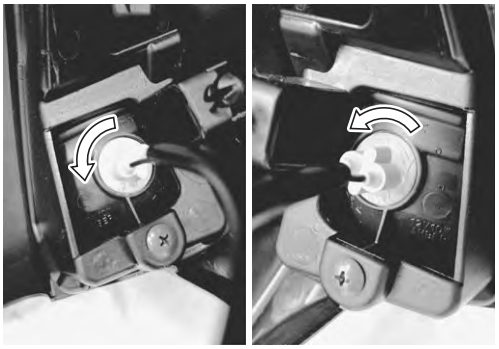
Turn signal light: 12 V 10 W

FRONT TURN SIGNAL LIGHT BULB REPLACEMENT

- Remove the front leg shield. (☞5-6)
- Remove the front turn signal light bulb.

CAUTION

If you touch the bulb with your bare hands, clean the bulb with a cloth moistened with alcohol or soapy water to prevent premature bulb failure.



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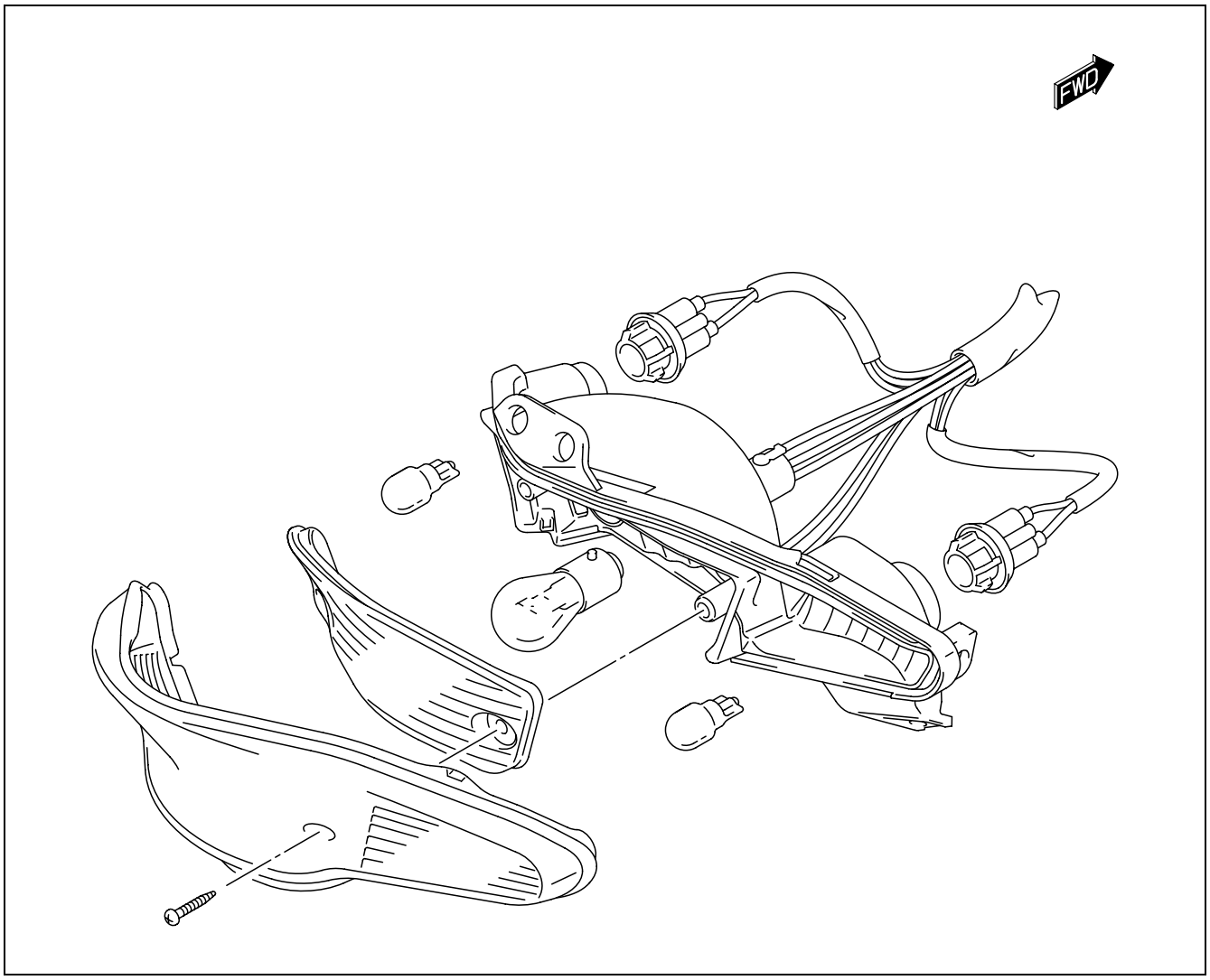
BRAKE LIGHT/TAILLIGHT AND REAR TURN SIGNAL LIGHT



Brake light/taillight: 12 V 18/5 W
Turn signal light: 12V 10 W

BRAKE LIGHT/TAILLIGHT BULB REPLACEMENT

- Remove the rear combination light lens ① and brake light/tail-light lens ②.

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• Remove the brake light/taillight bulb ③.

CAUTION

If you touch the bulb with your bare hands, clean the bulb with a cloth moistened with alcohol or soapy water to prevent premature bulb failure.

REAR TURN SIGNAL LIGHT BULB REPLACEMENT

• Remove the rear combination light lens and brake light/tail-light lens. (☞6-32)
• Remove the rear turn signal light bulb.

CAUTION

If you touch the bulb with your bare hands, clean the bulb with a cloth moistened with alcohol or soapy water to prevent premature bulb failure.

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SWITCHES

Measure each switch for continuity using the multi-circuit tester. If there is no continuity, replace the respective switch with a new one.

IGNITION SWITCH

Color / Position	R	O
OFF		
ON	○———	———○

HORN BUTTON

Color / Position	B/W	G
PUSH	○———	———○
•		

TURN SIGNAL LIGHT SWITCH

Color / Position	B	Lbl	Lg
L (⇦)	○———	———○	
•			
R (⇨)		○———	———○

FRONT BRAKE LIGHT SWITCH

Color / Position	O	W/B
ON	○———	———○
OFF		

STARTER BUTTON

Color / Position	W/B	Y/G
•		
PUSH	○———	———○

REAR BRAKE LIGHT SWITCH

Color / Position	O	W/B
ON	○———	———○
OFF		

DIMMER SWITCH

Color / Position	Y/W	Y	W
HI	○———	———○	
LO	○———	———	———○

WIRE COLOR

B : Black **Lg : Light green** **W : White**
G : Green **O : Orange** **Y : Yellow**
Lbl : Light blue **R : Red**
B/W : Black with White tracer
W/B : White with Black tracer
Y/G : Yellow with Green tracer
Y/W : Yellow with White tracer

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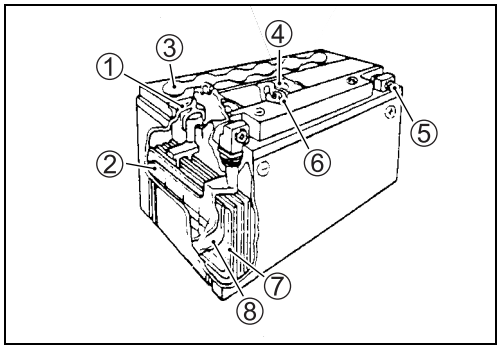
BATTERY
SPECIFICATIONS

Type designation	FTZ5S
Capacity	12 V, 12.6 kC (3.5 Ah)/10 HR

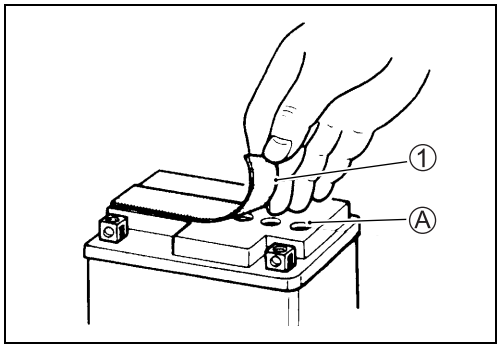
① Upper cover breather
② Cathode plates
③ Stopper
④ Filter
⑤ Terminal
⑥ Safety valve
⑦ Anode plates
⑧ Separator (Fiberglass plate)



INITIAL CHARGING
Filling electrolyte

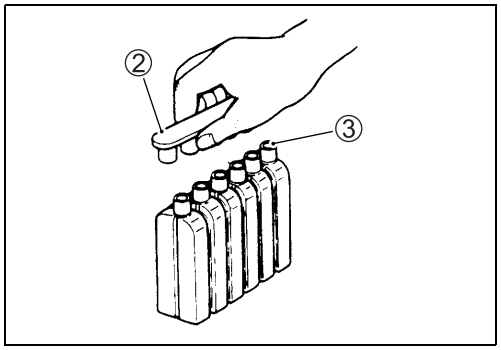
- Remove the aluminum tape ① sealing the battery electrolyte filler holes Ⓐ.

NOTE:
When filling electrolyte, the battery must be removed from the motorcycle and must be put on the level ground.

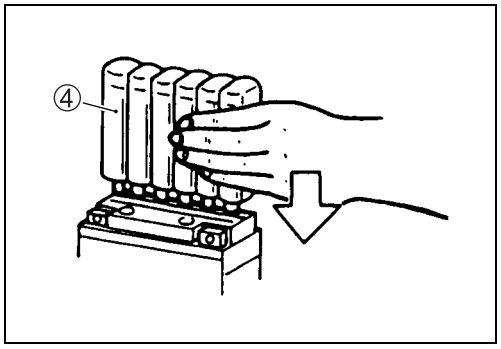


- Remove the caps ②.

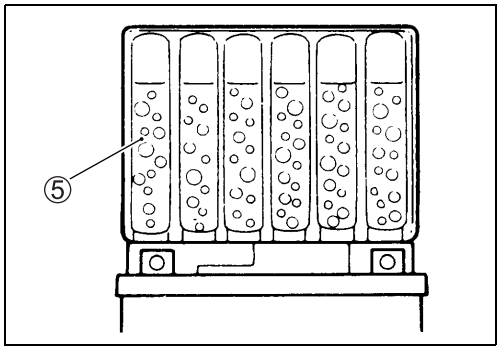
NOTE:
** After filling the electrolyte completely, use the removed cap ② as sealing caps of battery-filler holes.*
** Do not remove or pierce the sealed areas ③ of the electrolyte container.*



- Insert the nozzles of the electrolyte container ④ into the battery's electrolyte filler holes, holding the container firmly so that it does not fall. Take precaution not to allow any of the fluid to spill.



- Make sure air bubbles ⑤ are coming up each electrolyte container, and leave in this position for about more than 20 minutes.



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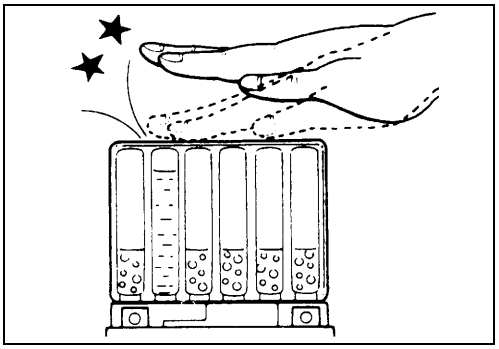
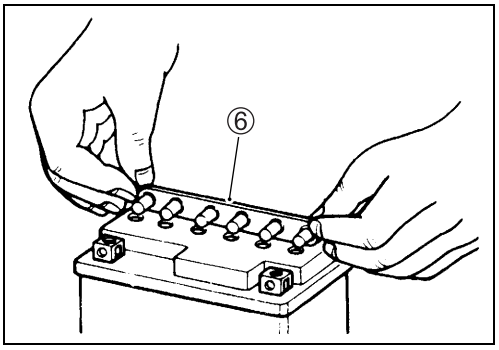
NOTE:
If no air bubbles are coming up from a filler port, tap the bottom of the electrolyte container two or three times.
Never remove the container from the battery.

- After confirming that the electrolyte has entered the battery completely, remove the electrolyte containers from the battery. Wait for about 20 minutes.

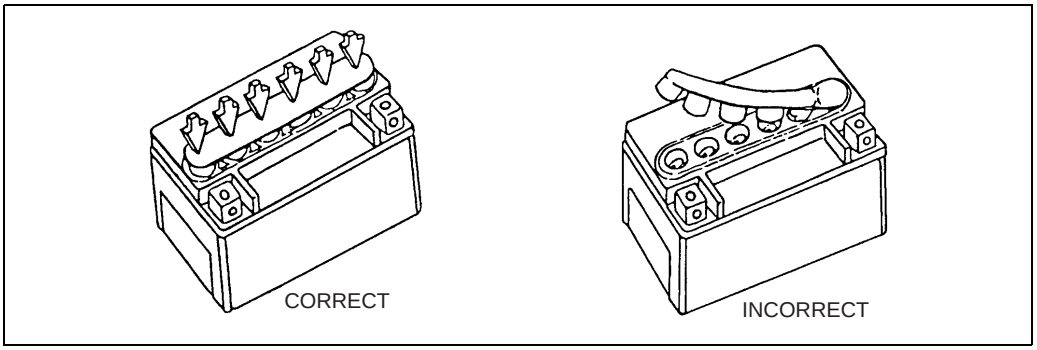


- Insert the caps ⑥ into the filler holes, pressing in firmly so that the top of the caps do not protrude above the upper surface of the battery's top cover.



CAUTION

*** Never use anything except the specified battery.**
*** Once the caps have been installed to the battery, do not remove the caps.**
*** Do not tap the caps with a tool such as hammer when installing them.**



For initial charging, use the charger specially designed for MF battery.

CAUTION

*** For charging the battery, make sure to use the charger specially designed for MF battery. Otherwise, the battery may be overcharged resulting in shortened service life.**
*** Do not remove the cap during charging.**
*** Position the battery with the cap facing upward during charging.**

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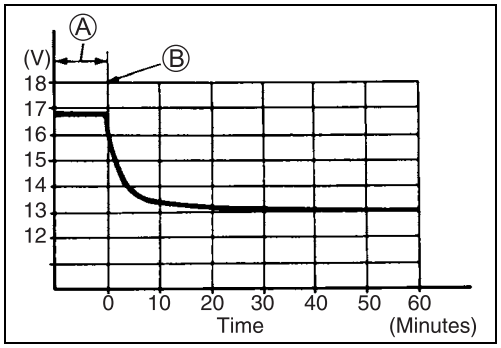
SERVICING

Visually inspect the surface of the battery container. If any signs of cracking or electrolyte leakage from the sides of the battery have occurred, replace the battery with a new one. If the battery terminals are found to be coated with rust or an acidic white powdery substance, clean the battery terminals with sandpaper.

RECHARGING OPERATION

- Using the multi-circuit tester, check the battery voltage. If the voltage reading is the 12.0 V (DC) and less, recharge the battery with a battery charger.

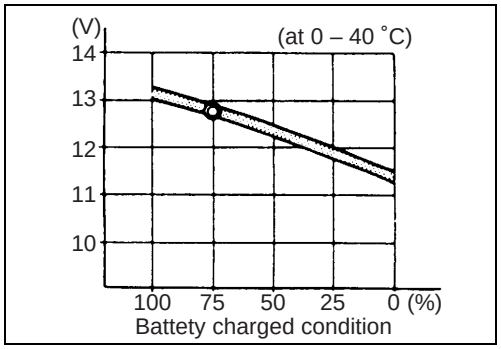


Ⓐ Charging period
Ⓑ Stop charging

CAUTION

*** When recharging the battery, remove the battery from the motorcycle.**
*** Do not remove the caps on the battery top while recharging.**

Recharging time: 3 A for 0.5 hour or 0.4 A for 5 to 10 hours



CAUTION

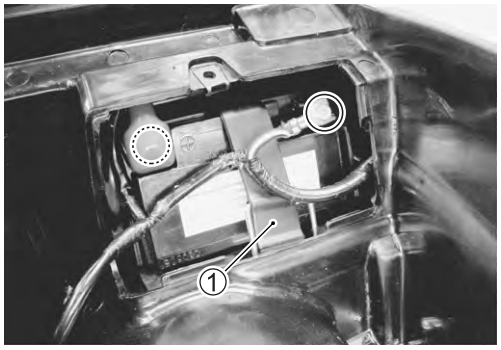
Be careful not to permit the charging current to exceed 5 A at any time.

- After recharging, wait for 30 minutes and more and check the battery voltage with a multi-circuit tester.
- If the battery voltage is the 12.5 V and less, recharge the battery again.
- If battery voltage is still 12.5 V and less, after recharging, replace the battery with a new one.
- When the motorcycle is not used for a long period, check the battery every 1 month to prevent the battery discharge.

REMOVAL

- Remove the battery box lid. (☞6-10)
- Remove the battery rubber band ①.
- Remove the battery.

NOTE:
First, disconnect the ⊖ battery lead wire.



REMOUNTING

Remount the battery in the reverse order of removal.

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SERVICING INFORMATION

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TROUBLESHOOTING
ENGINE

Complaint	Symptom and possible causes	Remedy
Engine will not start, or is hard to start.	**Compression too low**	
	1. Out of adjustment valve clearance.	Adjust.
	2. Worn valve guides or poor seating of valves.	Repair or replace.
	3. Mistimed valves.	Adjust.
	4. Excessively worn piston rings.	Replace.
	5. Worn-down cylinder bore.	Replace or rebore.
	6. Starter motor cranks too slow.	See electrical section.
	7. Poor seating of spark plug.	Retighten.
	8. Gas leaks from the joint in crankcase, cylinder or cylinder head.	Repair or replace.
	Plugs not sparking	
	1. Fouled spark plug.	Clean.
	2. Wet spark plug.	Clean and dry.
	3. Defective ignition coil.	Replace.
	4. Open or short in high-tension cord.	Replace.
	5. Defective pick-up coil or CDI unit.	Replace.
	6. Open or short circuited wiring connections.	Repair or replace.
	7. Defective spark plug.	Replace.
	8. Defective spark plug cap.	Replace.
	No fuel reaching the carburetors	
	1. Clogged hole in the fuel tank cap.	Clean or replace.
	2. Clogged or defective fuel pump.	Clean or replace.
	3. Defective carburetor needle valve.	Replace.
	4. Clogged fuel hose or fuel filter.	Clean or replace.
Engine stalls often.	1. Fouled spark plug.	Clean.
	2. Defective pick-up coil or CDI unit.	Replace.
	3. Clogged fuel hose or fuel tank cap.	Clean or replace.
	4. Clogged jets in carburetor.	Clean.
	5. Out of adjustment valve clearance.	Adjust.
	6. Clogged exhaust pipe.	Clean.
	7. Open or short circuited wiring connection.	Repair or replace.
Noisy engine.	**Excessive valve chatter**	
	1. Too large valve clearance.	Adjust.
	2. Weakened or broken valve spring.	Replace.
	3. Worn rocker arm or cam surface.	Replace.
	4. Worn and burnt camshaft bearing.	Replace.
	Noise seems to come from piston	
	1. Worn down piston or cylinder.	Replace.
	2. Fouled with carbon combustion chamber.	Clean.
	3. Worn piston pin or piston pin bore.	Replace.
	4. Worn piston rings or ring grooves.	Replace.

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Complaint	Symptom and possible causes	Remedy
Noisy engine.	**Noise seems to come from timing chain**	
	1. Stretched chain.	Replace.
	2. Worn sprocket.	Replace.
	3. Not working tension adjuster.	Repair or replace.
	Noise seems to come from clutch	
	1. Worn or slipping drive belt.	Replace.
	2. Worn rollers in the movable drive face.	Replace.
	Noise seems to come from crankshaft	
	1. Due to wear rattling bearings.	Replace.
	2. Worn and burnt big-end bearing.	Replace.
	3. Worn and burnt journal bearings.	Replace.
	4. Too large thrust clearance.	Replace.
	Noise seems to come from transmission	
	1. Worn or rubbing gears.	Replace.
	2. Badly worn splines.	Replace.
	3. Badly worn bearings.	Replace.
Slipping clutch.	1. Worn or damaged clutch shoes.	Replace.
	2. Weakened clutch shoe springs.	Replace.
	3. Worn clutch housing.	Replace.
	4. Worn or slipping drive belt.	Replace.
Engine idles poorly.	1. Valve clearance out of adjustment.	Adjust.
	2. Poor seating of valves.	Repair or replace.
	3. Defective valve guides.	Replace.
	4. Worn down camshaft.	Replace.
	5. Too wide spark plug gap.	Adjust or replace.
	6. Defective ignition coil.	Replace.
	7. Defective CDI unit.	Replace.
	8. Defective stator coil.	Replace.
	9. Clogged caburetor jet.	Clean or replace.
	10. Idle adjust screw and pilot screw out of adjustment	Adjust.
	11. Damaged or cracked vacuum hose.	Replace.
	12. Clogged air cleaner element.	Clean or replace.
	13. Incorrect float chamber fuel level.	Adjust float height.

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Complaint	Symptom and possible causes	Remedy
Engine runs poorly in high speed range.	1. Weakened valve spring.	Replace.
	2. Worn camshaft.	Replace.
	3. Valve timing out of adjustment.	Adjust.
	4. Too narrow spark plug gap.	Adjust.
	5. Ignition not advanced sufficiently due to poorly working timing advance circuit.	Replace CDI unit.
	6. Defective ignition coil.	Replace.
	7. Defective pick-up coil or CDI unit.	Replace.
	8. Too low float-chamber fuel level.	Adjust.
	9. Clogged air cleaner element.	Clean.
	10. Clogged fuel hose, resulting in inadequate fuel supply to carburetor.	Clean and prime.
Dirty or heavy exhaust smoke.	1. Too much engine oil in the engine.	Check level and drain.
	2. Worn piston rings or cylinder.	Replace.
	3. Worn valve guides.	Replace.
	4. Scored or scuffed cylinder wall.	Rebore or replace.
	5. Worn valves or stems.	Replace.
	6. Defective stem seals.	Replace.
	7. Worn oil ring side rails.	Replace.
Engine lacks power.	1. Loss of valve clearance.	Adjust.
	2. Weakened valve spring.	Replace.
	3. Out of adjustment valve timing.	Adjust.
	4. Worn piston rings or cylinder.	Replace.
	5. Poor seating of valves.	Repair.
	6. Fouled spark plug.	Clean or replace.
	7. Incorrect spark plug.	Adjust or replace.
	8. Clogged jets in carburetor.	Clean.
	9. Out of adjustment float-chamber fuel level.	Adjust.
	10. Clogged air cleaner element.	Clean.
	11. Slipping or worn drive belt.	Replace.
	12. Sucking air from intake pipe.	Retighten or replace.
	13. Too much engine oil.	Drain out excess oil.
	14. Defective CDI unit.	Replace.
	15. Damaged/worn rollers in the movable drive face.	Replace.
	16. Weakened movable drive face spring.	Replace.
Engine overheats	1. Heavy carbon deposit on piston crown.	Clean.
	2. Not enough oil in the engine.	Add oil.
	3. Defective oil pump or clogged oil circuit.	Replace or clean.
	4. Too low in float chambers fuel level.	Adjust.
	5. Sucking air from intake pipe.	Retighten or replace.
	6. Use of incorrect engine oil.	Change.
	7. Clogged air intake with dust.	Clean.

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CARBURETOR

Complaint	Symptom and possible causes	Remedy
Starting difficulty.	1. Clogged starter jet.	Clean.
	2. Clogged starter jet passage.	Clean.
	3. Air leaking from joint between starter body and carburetor.	Tighten, adjust, or replace gasket.
	4. Air leaking from carburetor joint or vacuum hose joint.	Tighten or replace defective part.
	5. Improperly working starter cable.	Adjust.
Idling or low-speed trouble.	1. Clogged or loose pilot jet.	Clean or tighten.
	2. Clogged or loose pilot air jet.	Clean or tighten.
	3. Air leaking from carburetor joint.	Tighten or replace defective part.
	4. Clogged pilot outlet port.	Clean.
	5. Clogged bypass port.	Clean.
	6. Starter cable not fully closed.	Adjust.
Medium or high-speed trouble.	1. Clogged main jet.	Clean.
	2. Clogged main air jet.	Clean.
	3. Clogged needle jet.	Clean.
	4. Improperly working throttle valve.	Adjust.
	5. Clogged fuel filter.	Clean or replace.
Overflow and fuel level fluctuations.	1. Worn or damaged needle valve.	Replace.
	2. Broken needle valve spring.	Replace.
	3. Improperly working float.	Adjust or replace.
	4. Foreign matter on the needle valve.	Clean or replace with needle valve seat.
	5. Incorrect float chamber fuel level.	Adjust float height.

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CHASSIS

Complaint	Symptom and possible causes	Remedy
Heavy steering.	1. Overtightened steering stem nut.	Adjust.
	2. Broken bearing in steering stem.	Replace.
	3. Distorted steering stem.	Replace.
	4. Not enough pressure in tires.	Adjust.
Wobbly handlebars.	1. Loss of balance between right and left front forks.	Replace.
	2. Distorted front fork.	Repair or replace.
	3. Distorted front axle or crooked tire.	Replace.
	4. Loose handlebar set bolt or clamp bolt.	Retighten.
	5. Loose steering stem nut.	Adjust.
	6. Worn or incorrect tire or wrong tire pressure.	Adjust or replace.
	7. Worn bearing/race in steering stem.	Replace.
Wobbly front wheel.	1. Distorted wheel rim.	Replace.
	2. Worn front wheel bearings.	Replace.
	3. Defective or incorrect tire.	Replace.
	4. Loose axle.	Retighten.
	5. Incorrect front fork oil level.	Adjust.
	6. Incorrect front wheel weight balance.	Adjust.
Front suspension too soft.	1. Weakened springs.	Replace.
	2. Not enough fork oil.	Replenish.
	3. Wrong weight fork oil.	Replace.
Front suspension too stiff.	1. Too viscous fork oil.	Replace.
	2. Too much fork oil.	Drain excess oil.
Noisy front suspension.	1. Not enough fork oil.	Replenish.
	2. Loose bolts on suspension.	Retighten.
Wobbly rear wheel.	1. Distorted wheel rim.	Replace.
	2. Worn gearbox bearing.	Replace.
	3. Defective or incorrect tire.	Replace.
	4. Worn crankcase bushing.	Replace.
	5. Loose axle nut or engine mounting bolts/nuts.	Retighten.
Rear suspension too soft.	1. Weakened shock absorber spring.	Replace.
	2. Leakage of oil from shock absorber.	Replace.
Rear suspension too stiff.	1. Worn crankcase bushing.	Replace.
Noisy rear suspension.	1. Loose nuts or bolts on rear suspension.	Retighten.
	2. Worn crankcase bushing.	Replace.

BRAKES

Complaint	Symptom and possible causes	Remedy
Insufficient brake power. (UY125S)	1. Leakage of brake fluid from hydraulic system.	Repair or replace.
	2. Worn pads or disc.	Replace.
	3. Oil adhesion on friction surface of pads.	Clean disc and pads.
	4. Air in hydraulic system.	Bleed air.
	5. Excessive brake lever play.	Adjust.
	6. Friction surfaces of pads are dirty with oil or dust.	Replace.
	7. Not enough brake fluid in the reservoir.	Replenish.

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Complaint	Symptom and possible causes	Remedy
Insufficient brake power. (UY125)	1. Worn shoes or drum. 2. Too much brake lever play 3. Excessive brake lever play. 4. Friction surfaces of shoes are dirty with oil or dust. 5. Excessively worn brake drum.	Replace. Adjust. Adjust. Replace. Replace.
Brake squeaking. (UY125S)	1. Carbon adhesion on pad surface. 2. Tilted pad. 3. Damaged wheel bearing. 4. Loose front-wheel axle or rear-wheel axle. 5. Worn pads. 6. Foreign material in brake fluid. 7. Clogged return port of master cylinder. 8. Brake pad surface glazed.	Repair surface with sandpaper. Correct pad fitting or replace. Replace. Tighten to specified torque. Replace. Replace brake fluid. Disassemble and clean master cylinder. Repair surface with sandpaper.
Brake squeaking. (UY125)	1. Carbon adhesion on shoe surface. 2. Tilted shoe. 3. Damaged wheel bearing. 4. Loose front or rear axle nut. 5. Brake pad surface glazed. 6. Worn shoe.	Repair surface with sandpaper. Correct shoe fitting or replace. Replace. Tighten. Repair surface with sandpaper. Replace.
Excessive brake lever stroke. (UY125S)	1. Air in hydraulic system. 2. Insufficient brake fluid. 3. Improper quality of brake fluid. 4. Worn brake cam lever. 5. Excessively worn shoes and/or drum.	Bleed air. Replenish fluid to specified level: bleed air. Replace with correct fluid. Replace. Replace.
Excessive brake lever or pedal stroke.	1. Worn brake cam lever. 2. Excessively worn shoes and/or drum.	Replace. Replace.
Leakage of brake fluid. (UY125S)	1. Insufficient tightening of connection joints. 2. Cracked hose. 3. Worn piston and/or cup.	Tighten to specified torque. Replace. Replace piston and/or cup.

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ELECTRICAL

Complaint	Symptom and possible causes	Remedy
No sparking or poor sparking.	1. Defective ignition coil or CDI unit. 2. Defective spark plug. 3. Defective pick-up coil or startor coil. 4. Open-circuited wiring connections.	Replace. Replace. Replace. Check and repair.
Spark plug soon become fouled with carbon.	1. Mixture too rich. 2. Idling speed set too high. 3. Incorrect gasoline. 4. Dirty air cleaner element. 5. Too cold spark plug.	Adjust carburetor. Adjust carburetor. Change. Clean. Replace with hot type plug.
Spark plug become fouled too soon.	1. Worn piston rings. 2. Worn piston or cylinder. 3. Excessive clearance of valve stems in valve guides. 4. Worn stem oil seal.	Replace. Replace. Replace. Replace.
Spark plug electrodes overheat or burn.	1. Too hot spark plug. 2. Overheated engine. 3. Loose spark plug. 4. Too lean mixture.	Replace with cold type plug. Tune up. Retighten. Adjust carburetor.
Battery does not charge.	1. Open or short-circuited lead wires, or loose lead connections. 2. Short-circuited, grounded or open startor coils. 3. Short-circuited or punctured regulator/rectifier.	Repair or replace or retighten. Replace. Replace.
Battery does charge, but charging rate is below the specification.	1. Lead wires tend to get shorted or open-circuited or loosely connected at terminals. 2. Grounded or open-circuited stator coils. 3. Defective regulator/rectifier. 4. Defective cell plates in the battery.	Repair or retighten. Replace. Replace. Replace the battery.
Overcharges.	1. Internal short-circuit in the battery. 2. Damaged or defective resistor element in the regulator/rectifier. 3. Poorly grounded regulator/rectifier.	Replace the battery. Replace. Clean and tighten ground connection.
Unstable charging.	1. Lead wire insulation frayed due to vibration, resulting in intermittent short-circuiting. 2. Internally short-circuited stator coils. 3. Defective regulator/rectifier.	Repair or replace. Replace. Replace.
Starter button is not effective.	1. Run down battery. 2. Defective switch contacts. 3. Brushes not seating properly on starter motor commutator. 4. Defective starter relay. 5. Defective main fuse.	Repair or replace. Replace. Repair or replace. Replace. Replace.

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BATTERY

Complaint	Symptom and possible causes	Remedy
"Sulfation", acidic white powdery substance or spots on surface of cell plates.	1. Cracked battery case. 2. Battery has been left in a run-down condition for a long time.	Replace the battery. Replace the battery.
Battery runs down quickly.	1. Trouble in charging system.	Check the generator, regulator/rectifier and circuit connections and make necessary adjustments to obtain specified charging operation.
	2. Cell plates have lost much of their active material as a result of overcharging.	Replace the battery, and correct the charging system.
	3. A short-circuit condition exists within the battery.	Replace the battery.
	4. Too low battery voltage.	Recharge the battery fully.
	5. Too old battery.	Replace the battery.
Battery "sulfation".	1. Too low or too high charging rate. (When not in use battery should be checked at least once a month to avoid sulfation.)	Replace the battery.
	2. Left unused the battery for too long in cold climate.	Replace the battery if badly sulfated.

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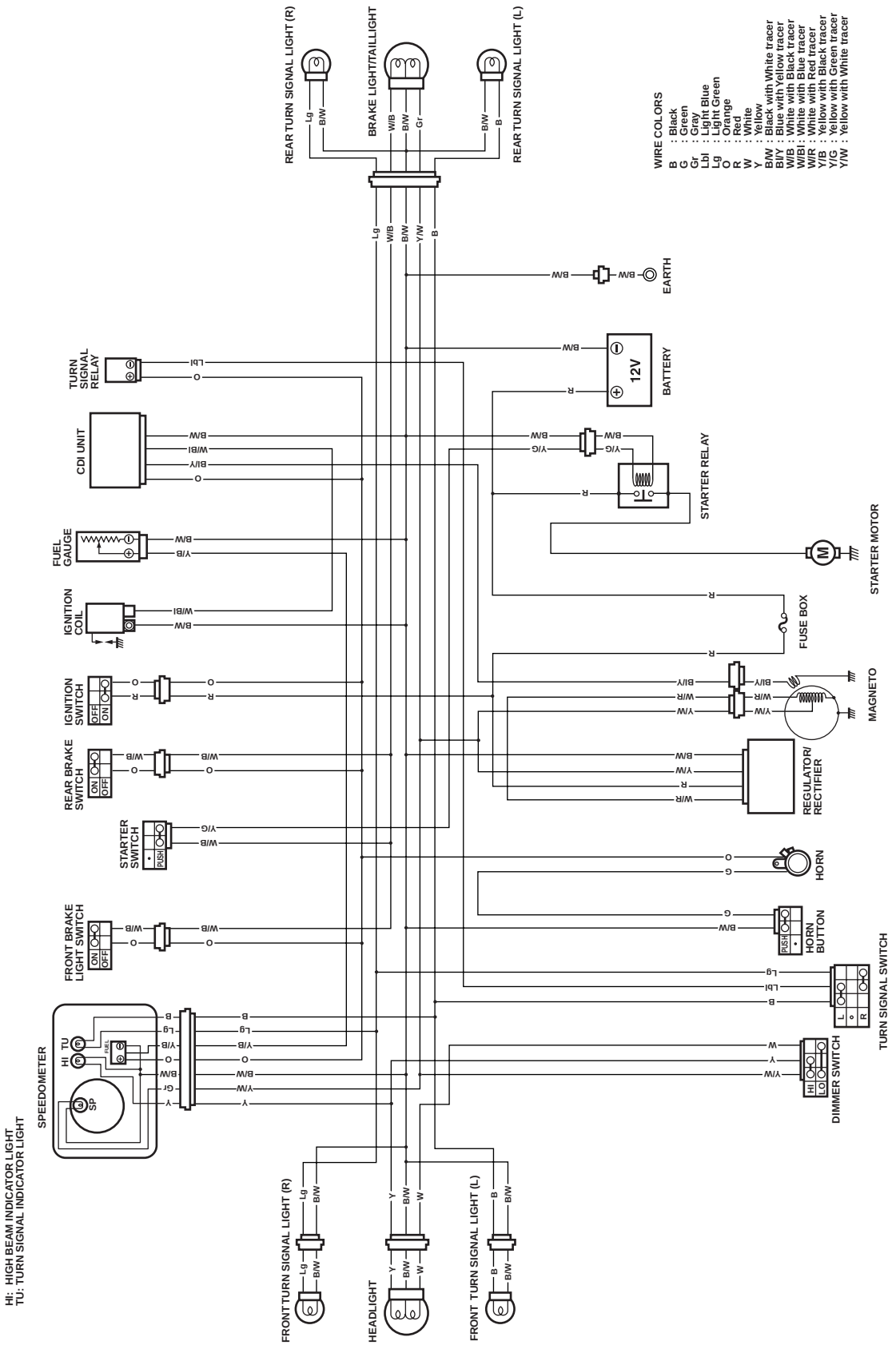
WIRING DIAGRAM
UY125



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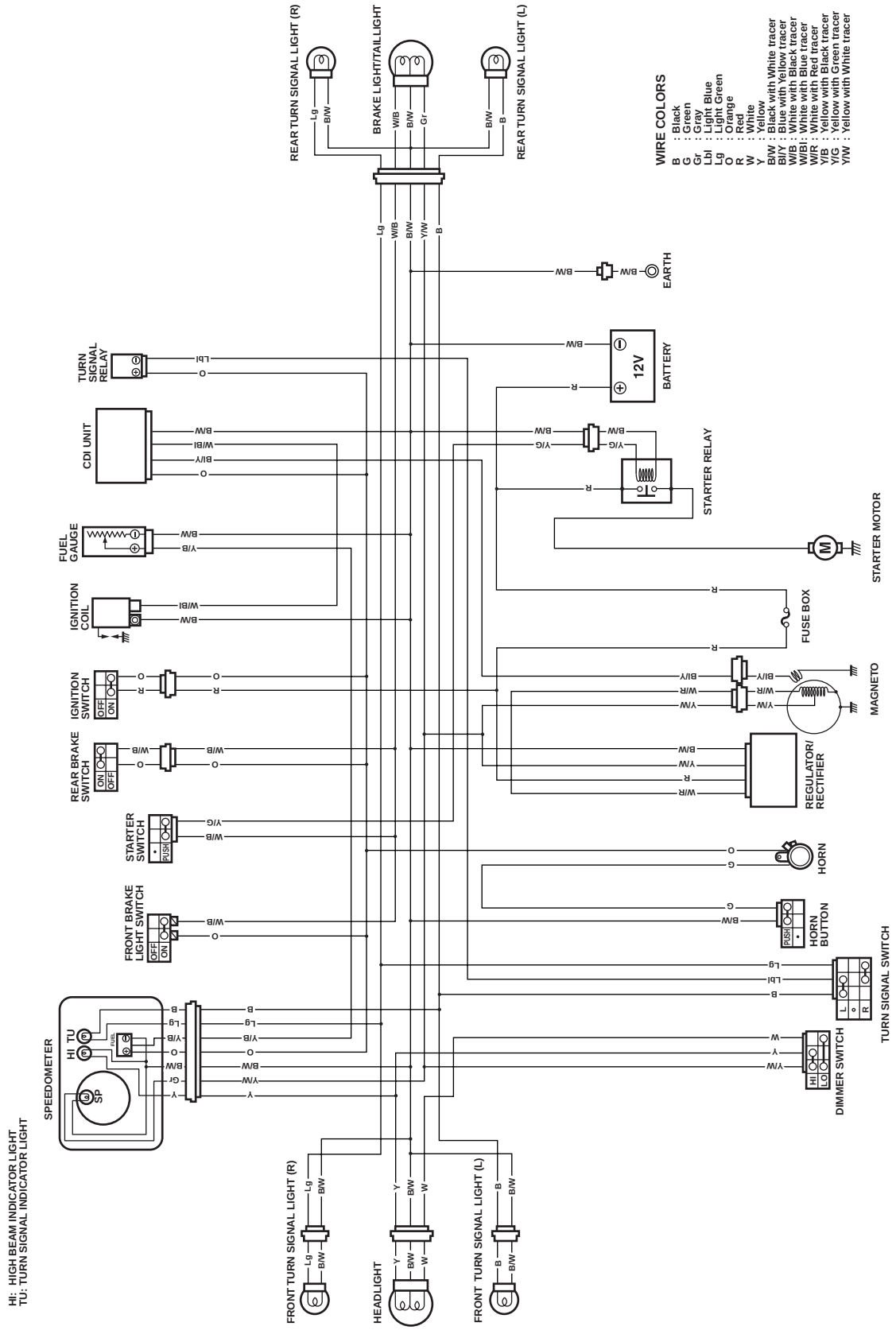
UY125S



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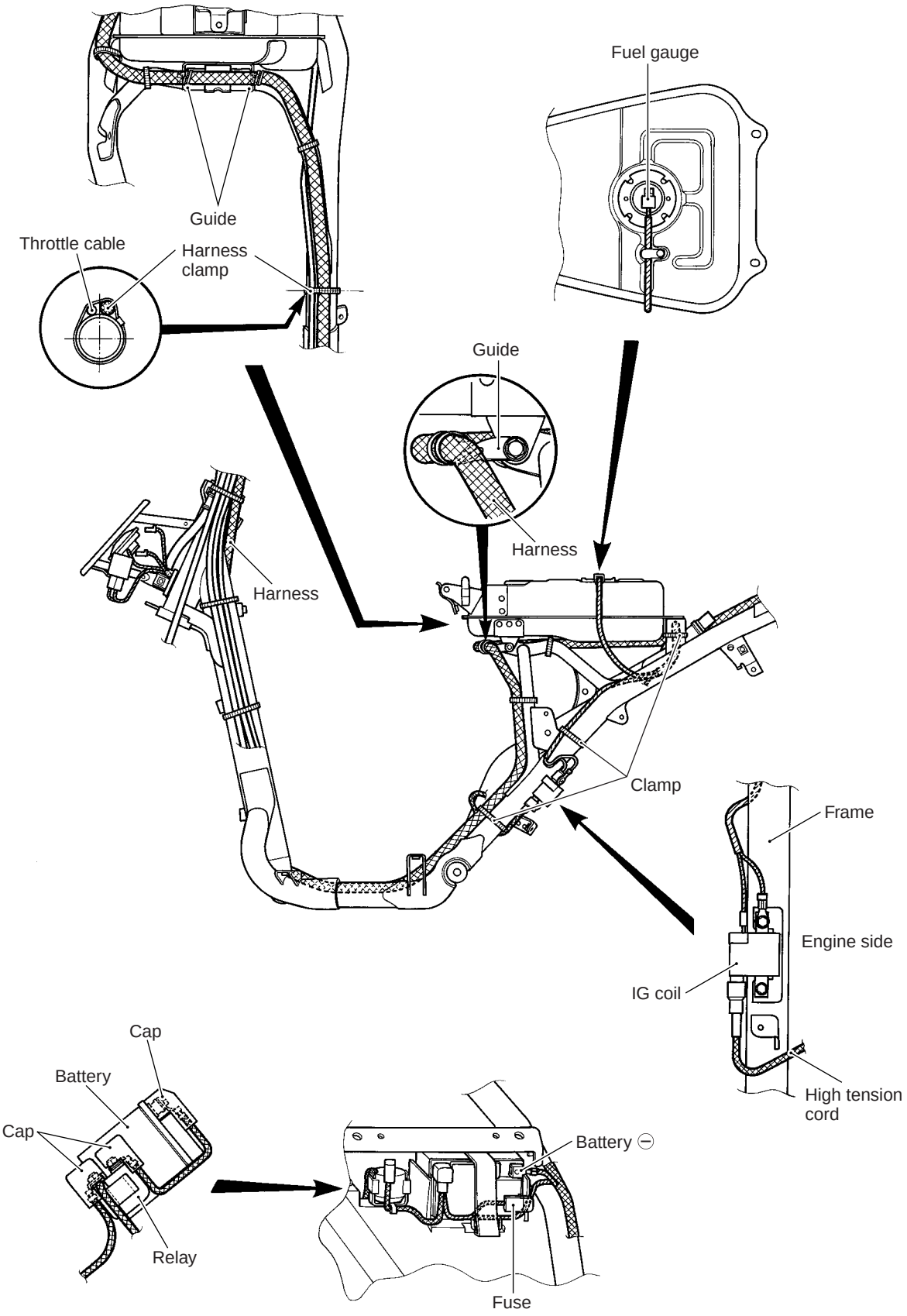
WIRING HARNESS, CABLE AND HOSE ROUTING

WIRING HARNESS ROUTING



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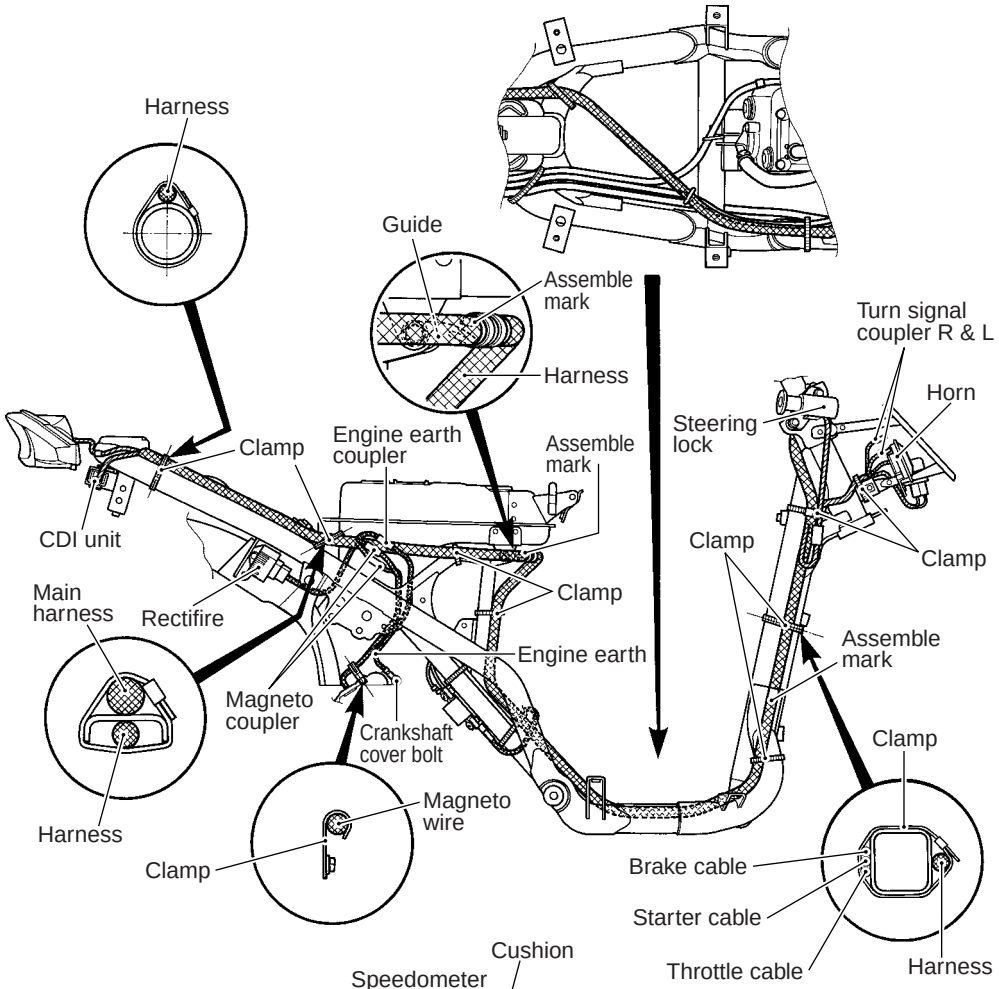

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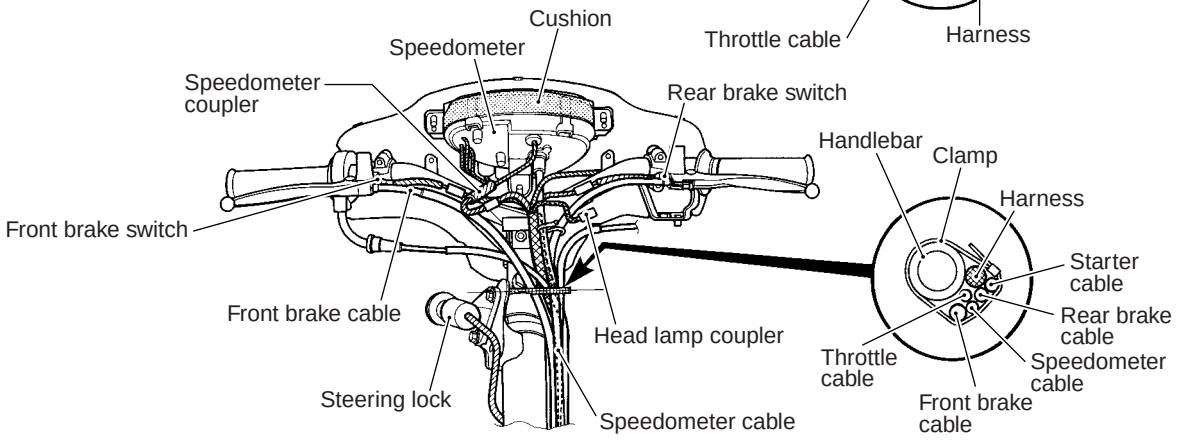

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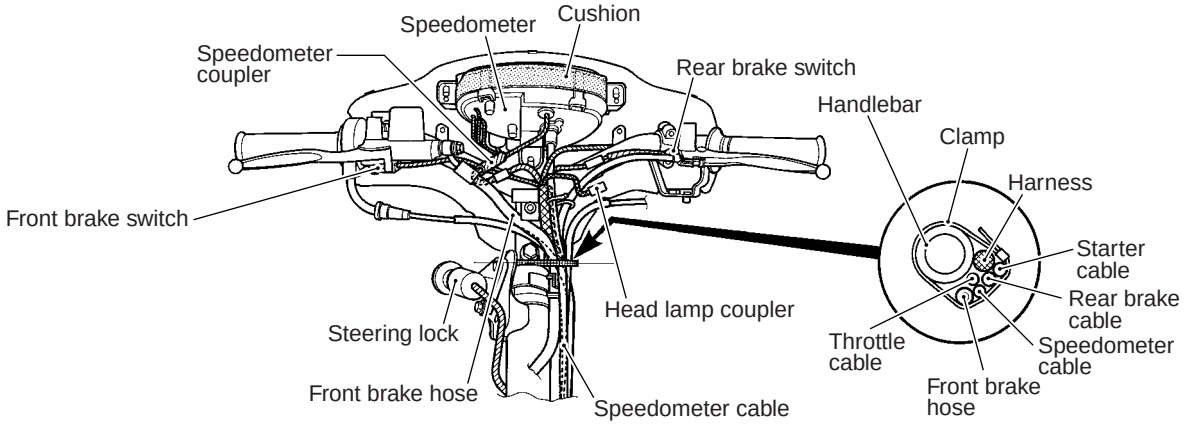

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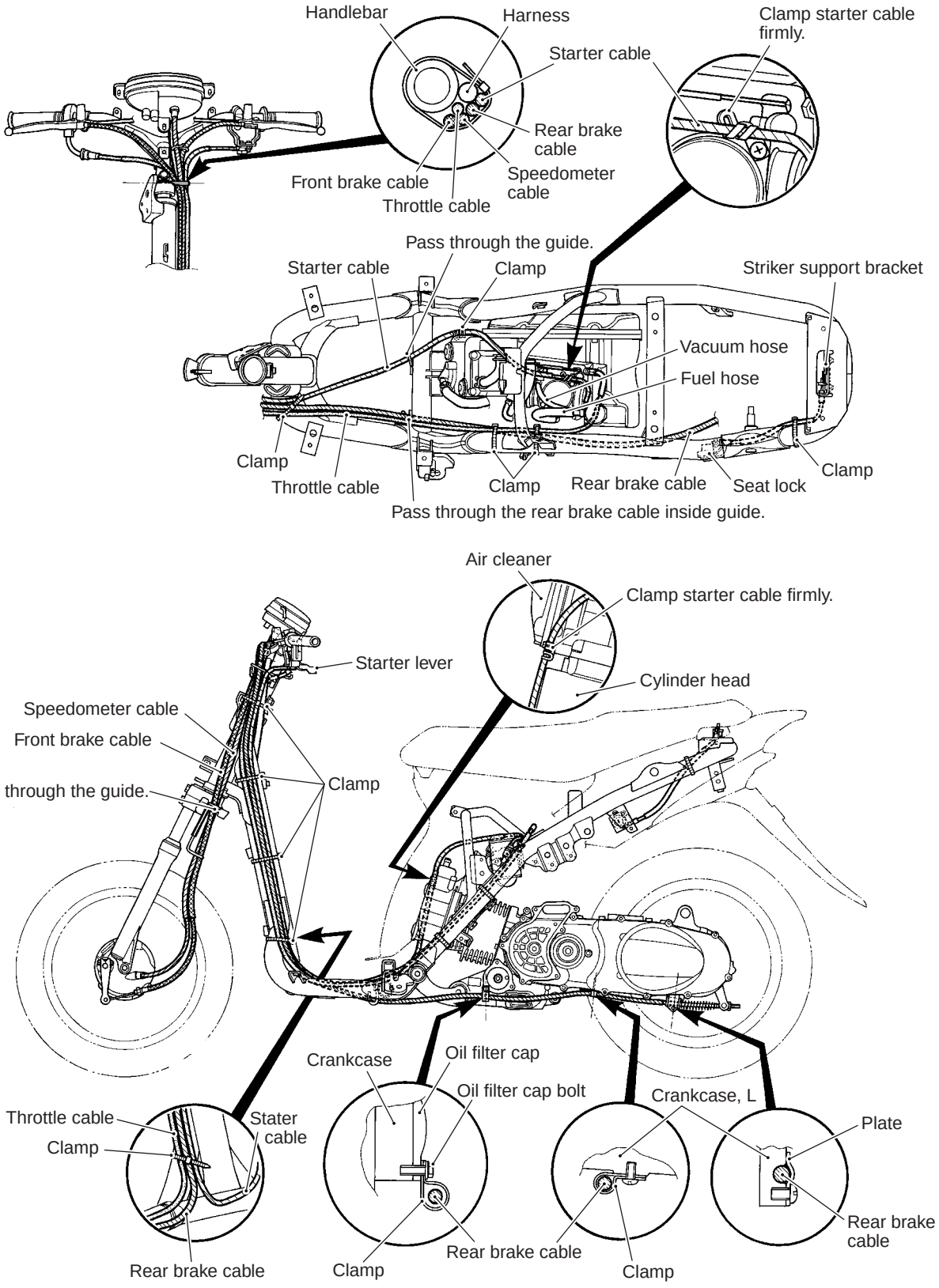
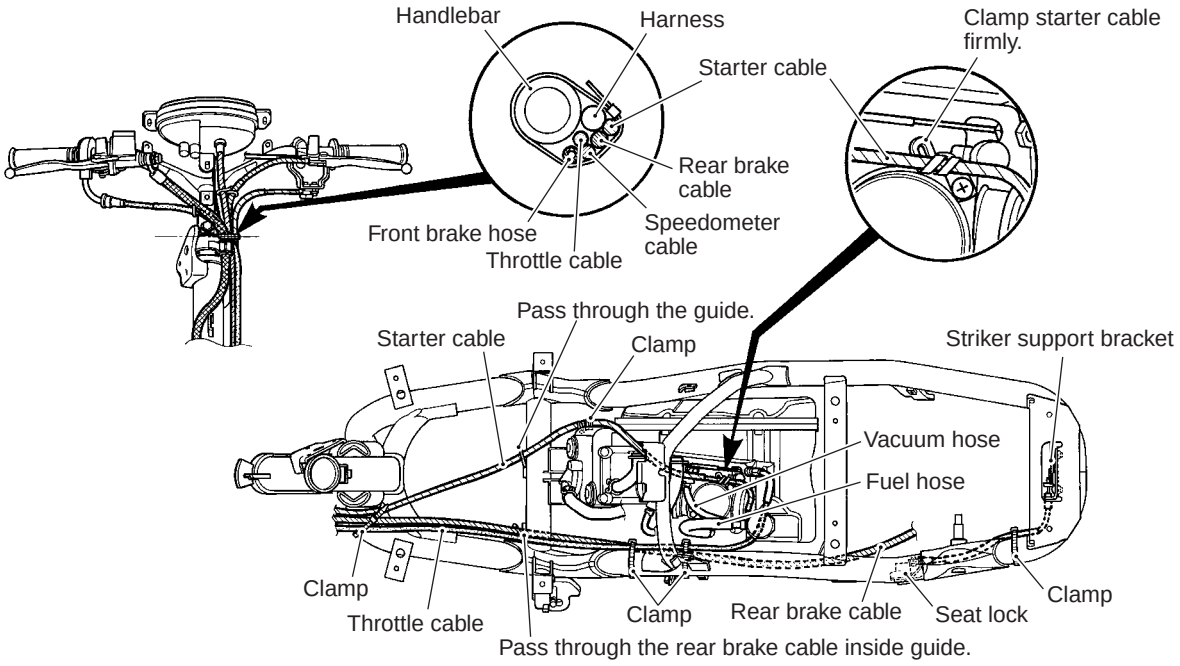
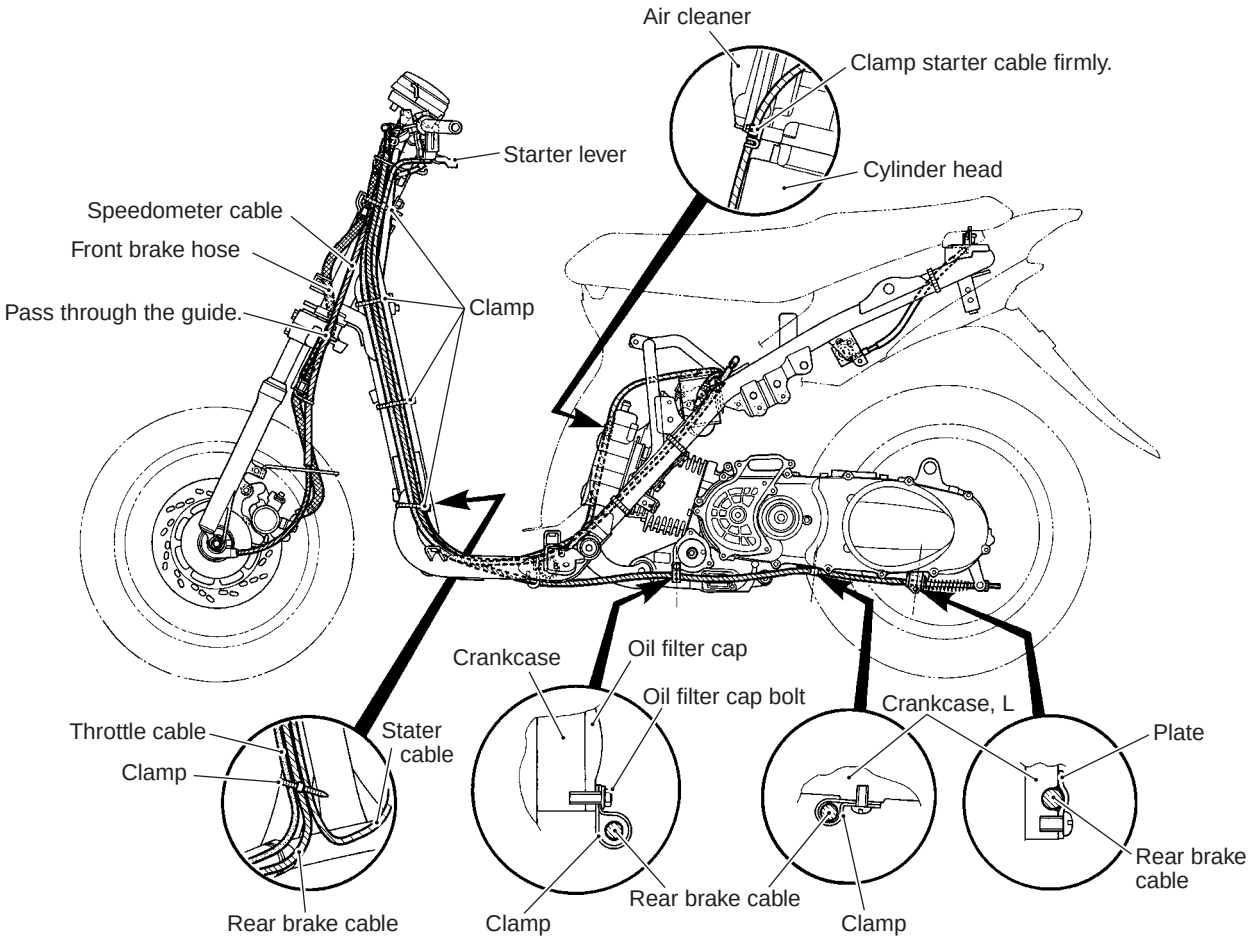
CABLE ROUTING (UY125)

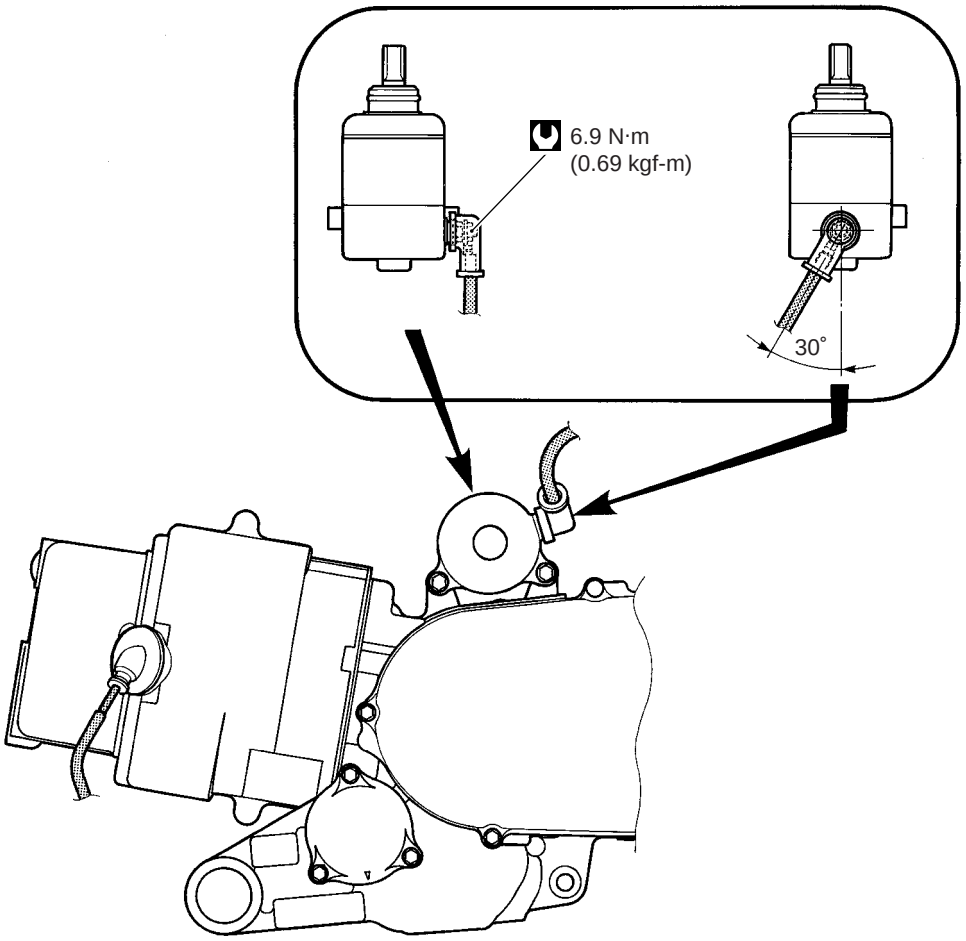


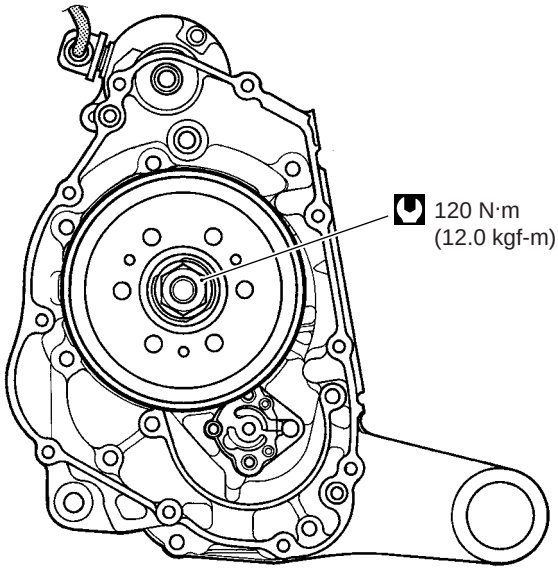
CABLE ROUTING (UY125S)

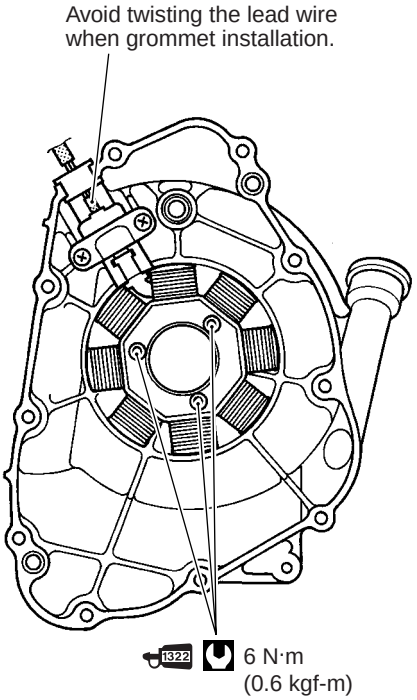




ENGINE ELECTRIC PARTS INSTALLATION







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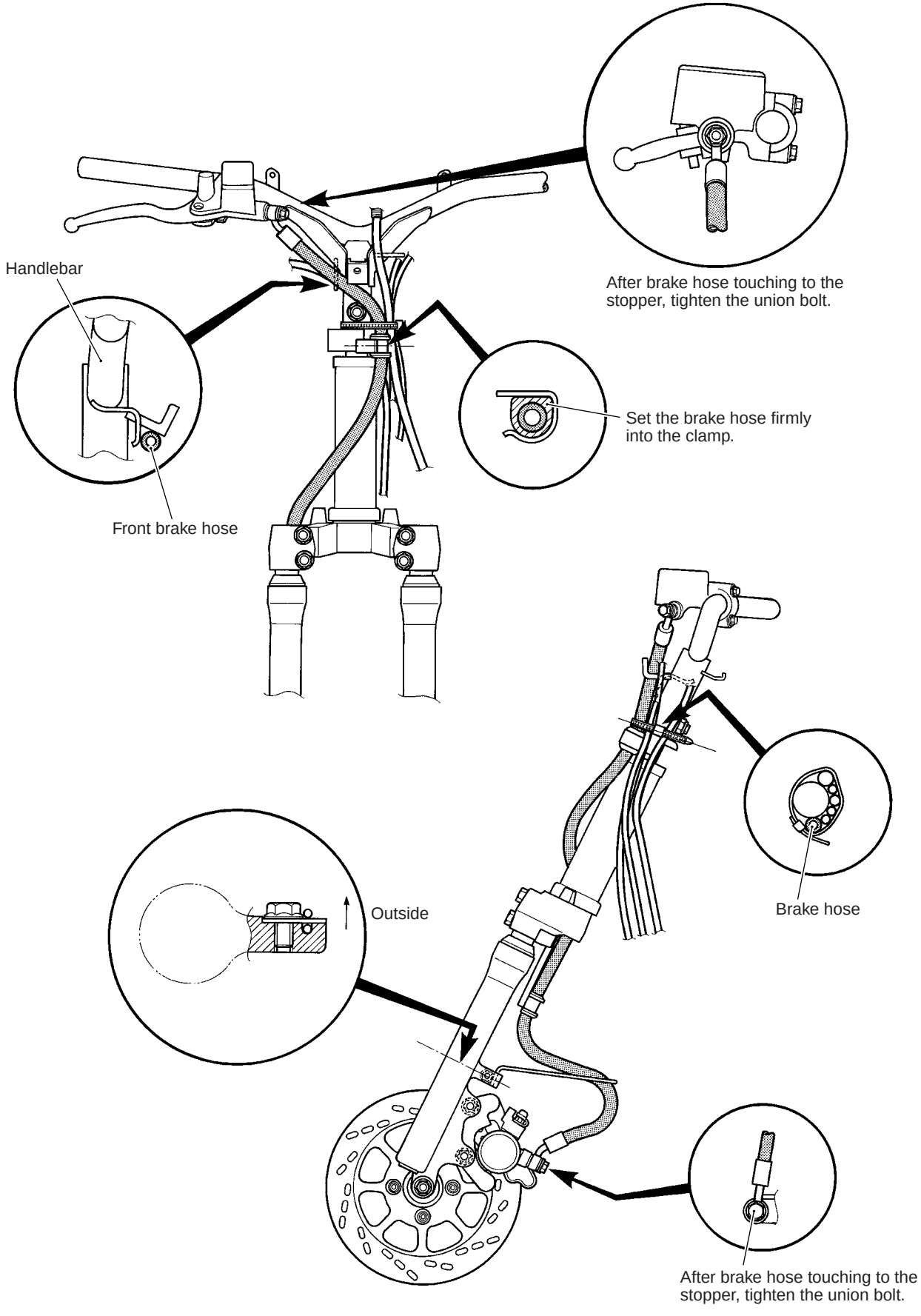
FRONT BRAKE HOSE ROUTING (UY125S)


Handlebar
After brake hose touching to the stopper, tighten the union bolt.
Set the brake hose firmly into the clamp.
Front brake hose
Outside
Brake hose
After brake hose touching to the stopper, tighten the union bolt.

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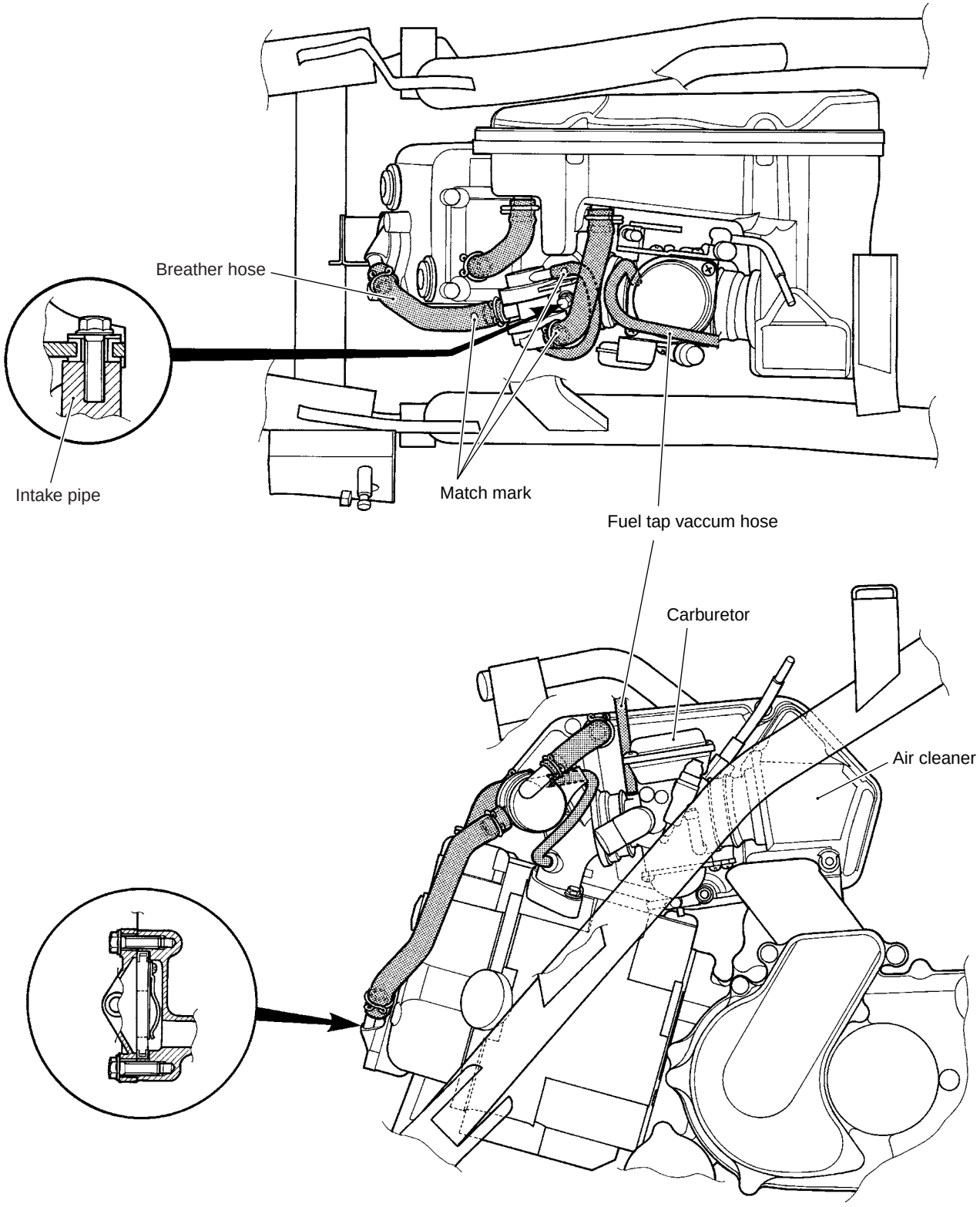
PAIR (AIR SUPPLY) SYSTEM HOSE ROUTING



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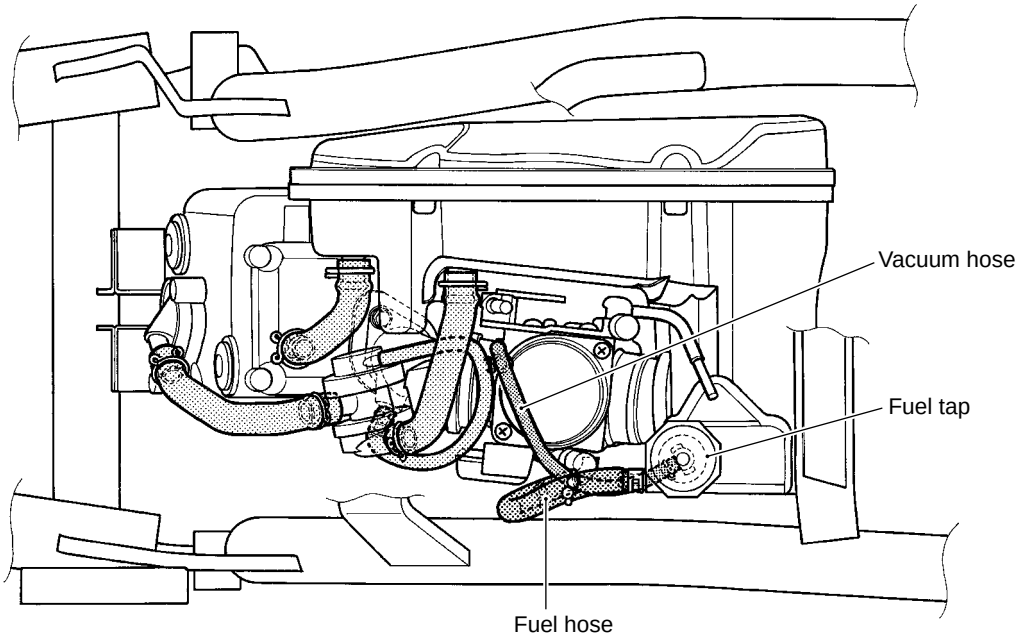
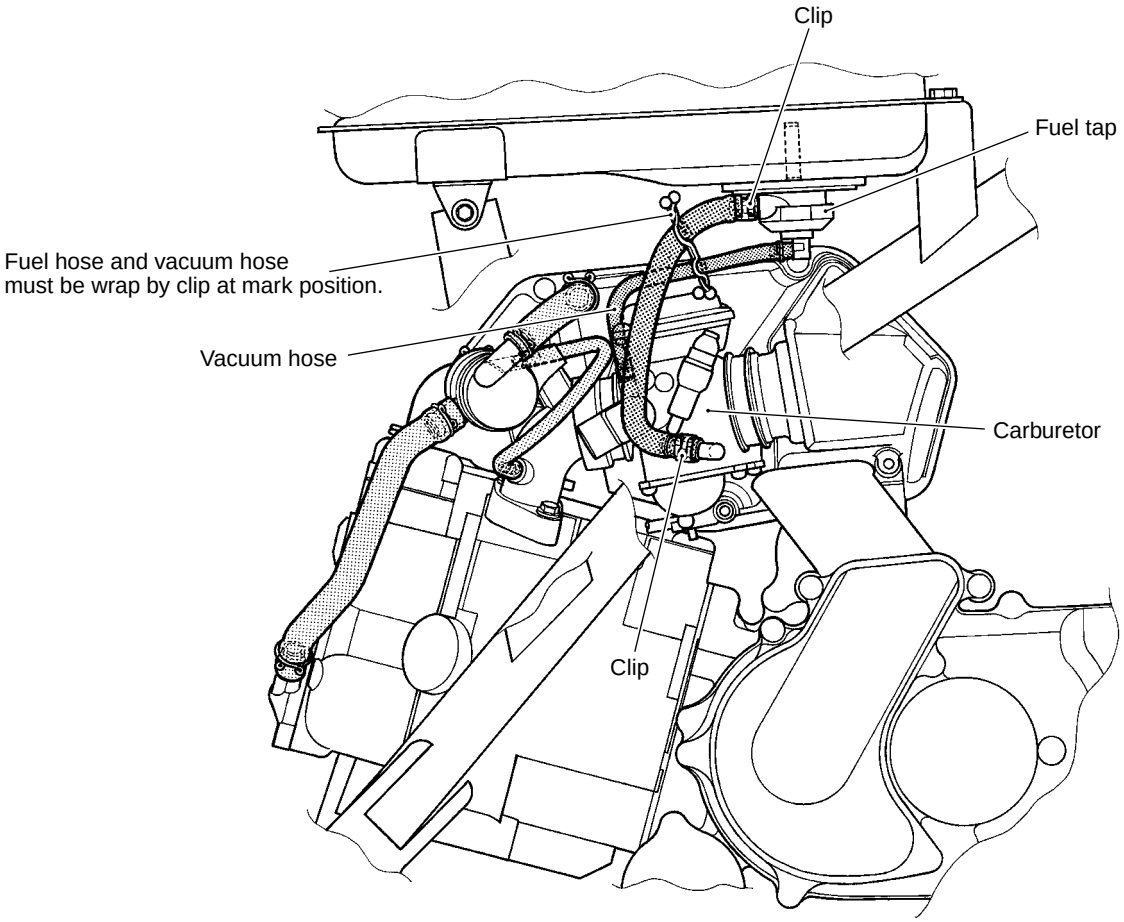
FUEL HOSE ROUTING





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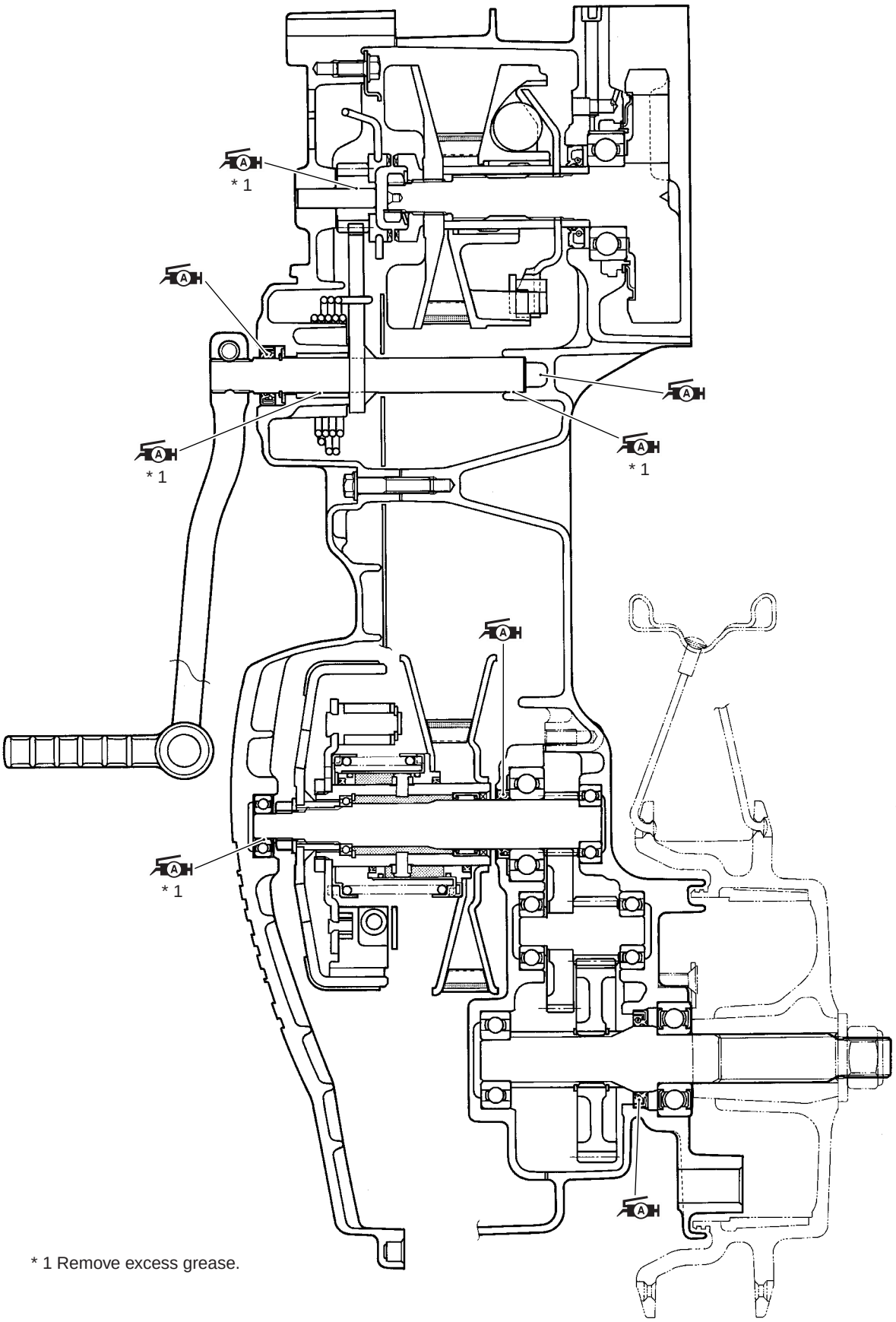
CLUTCH/TRANSMISSION/DRIVE BELT INSTALLATION



* 1 Remove excess grease.

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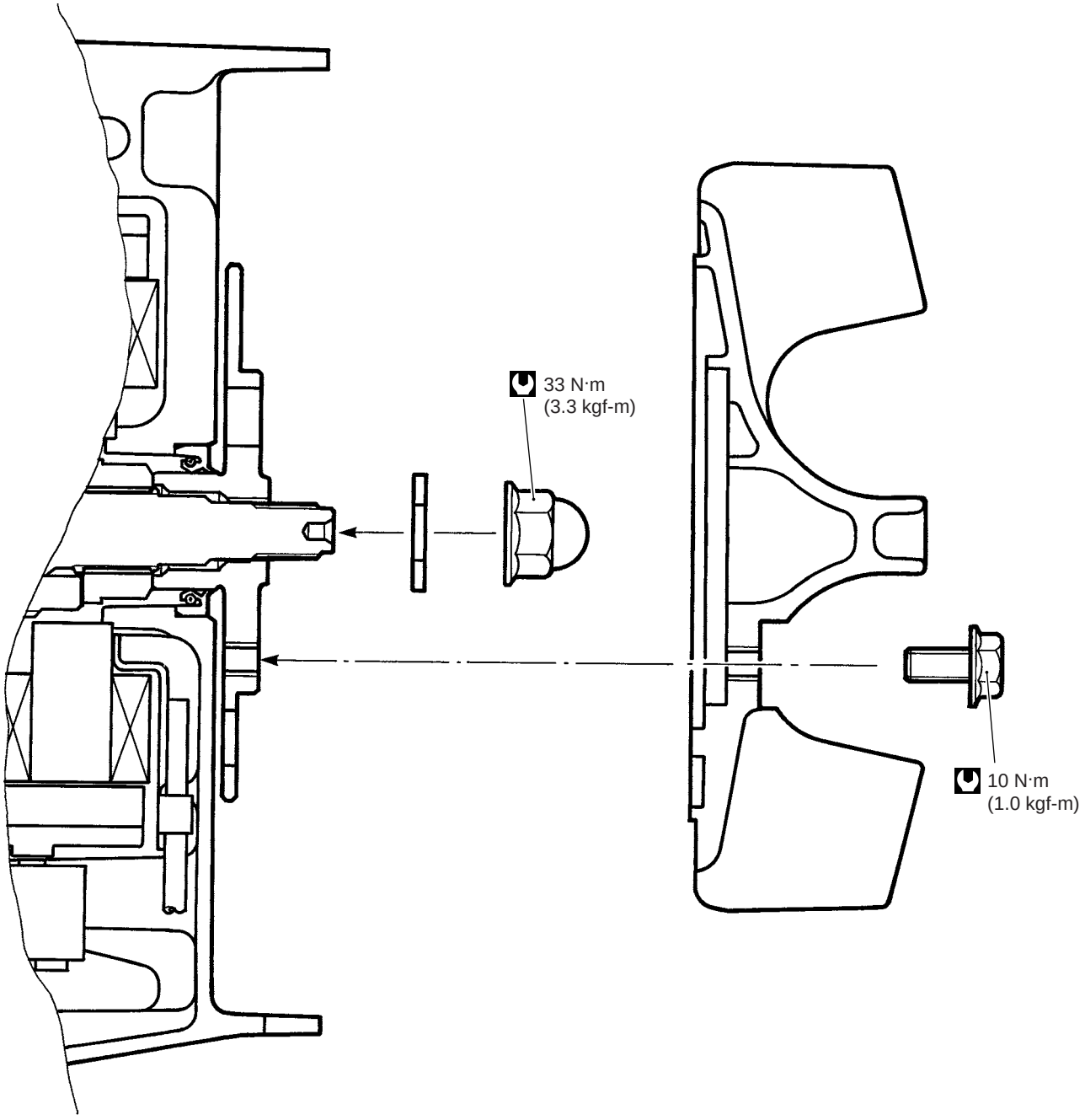
COOLING FAN INSTALLATION



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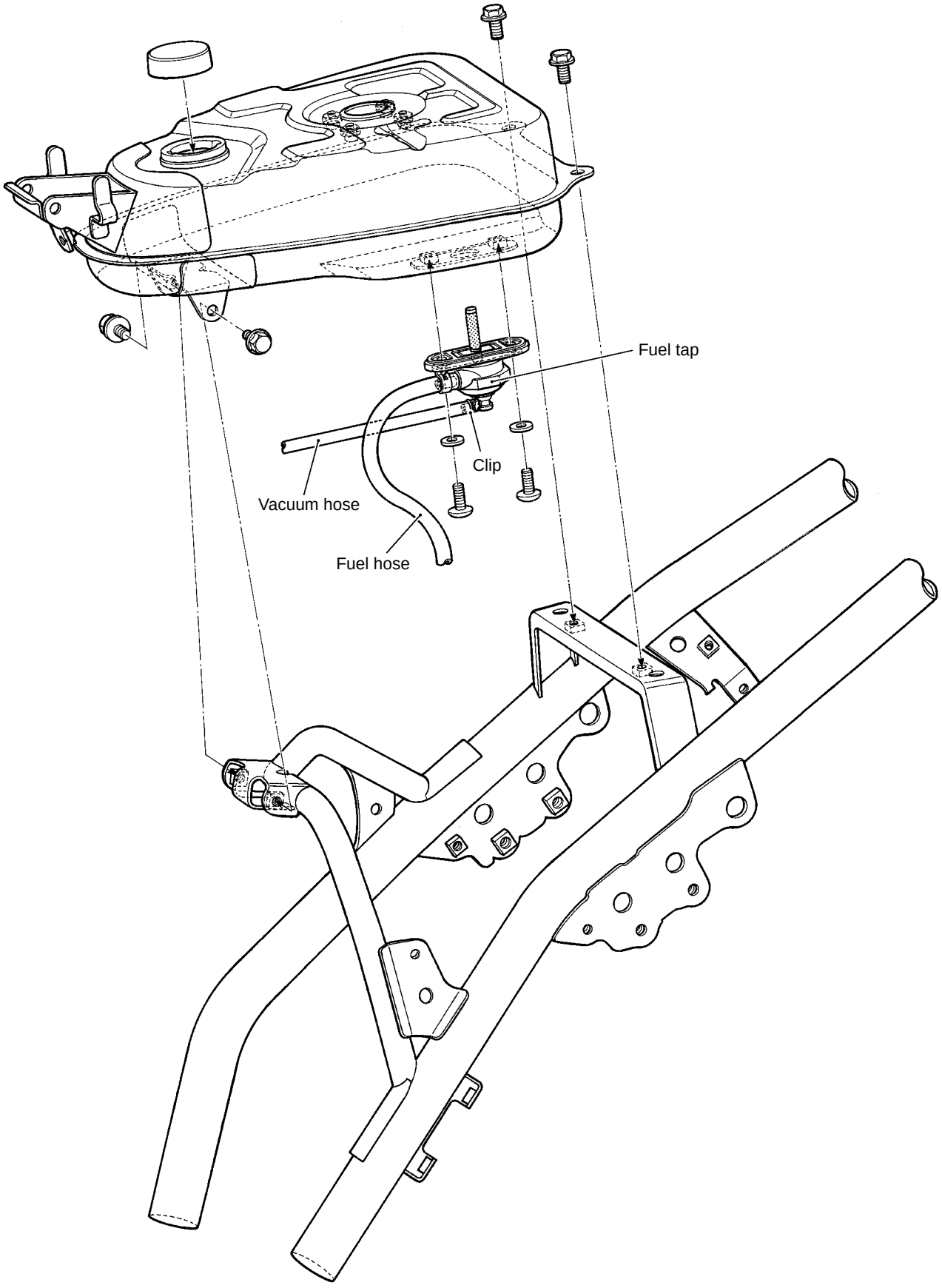
FUEL TANK INSTALLATION



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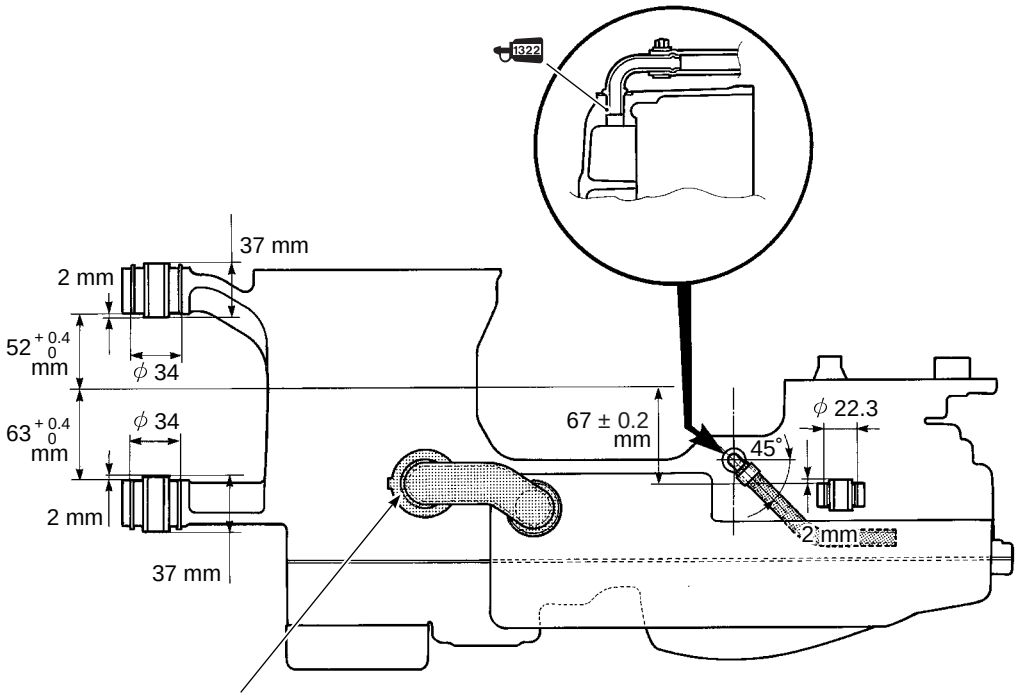
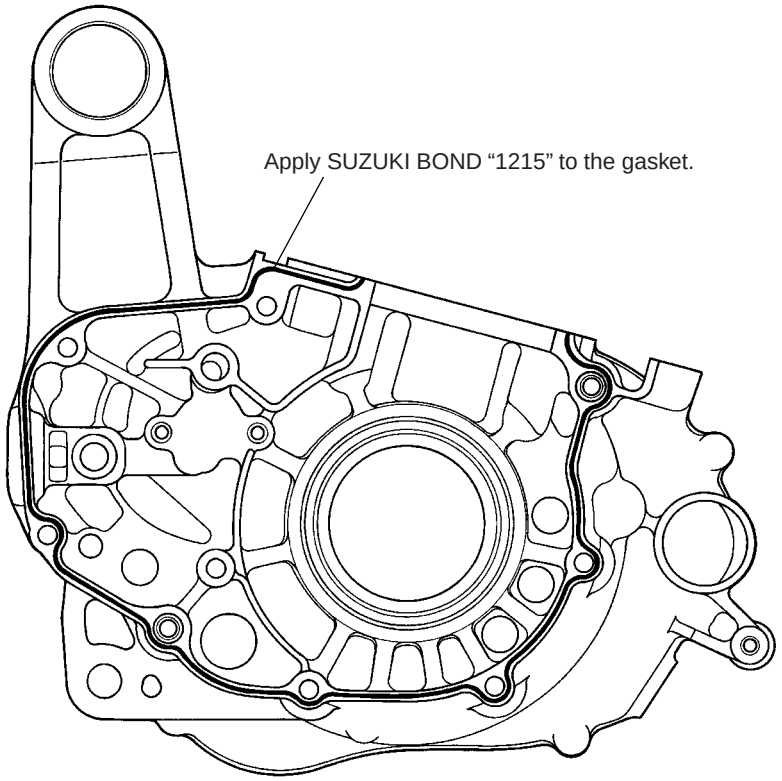
CRANKCASE INSTALLATION





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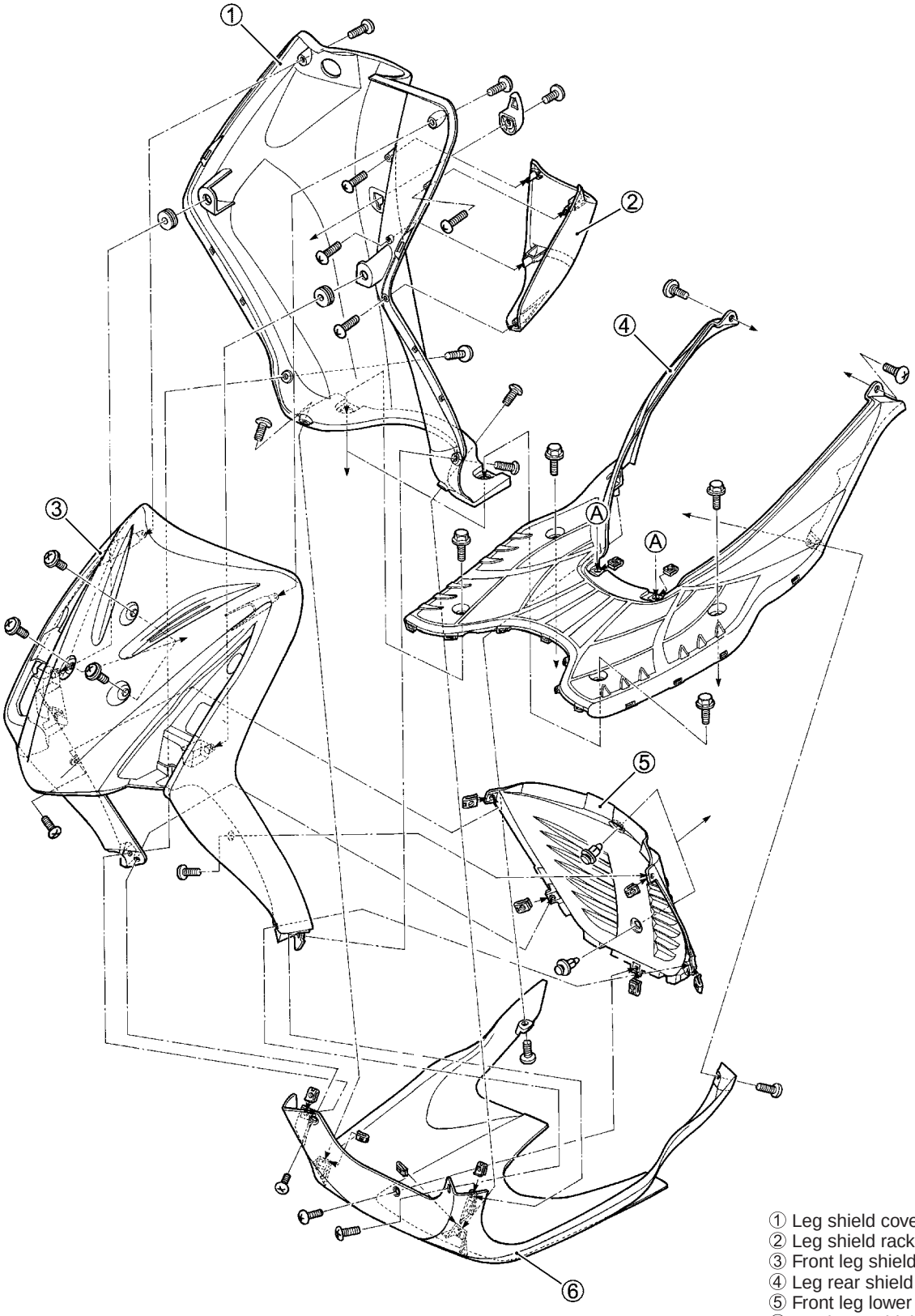
EXTERIOR PARTS CONSTRUCTION



① Leg shield cover
② Leg shield rack
③ Front leg shield
④ Leg rear shield
⑤ Front leg lower shield
⑥ Leg lower shield

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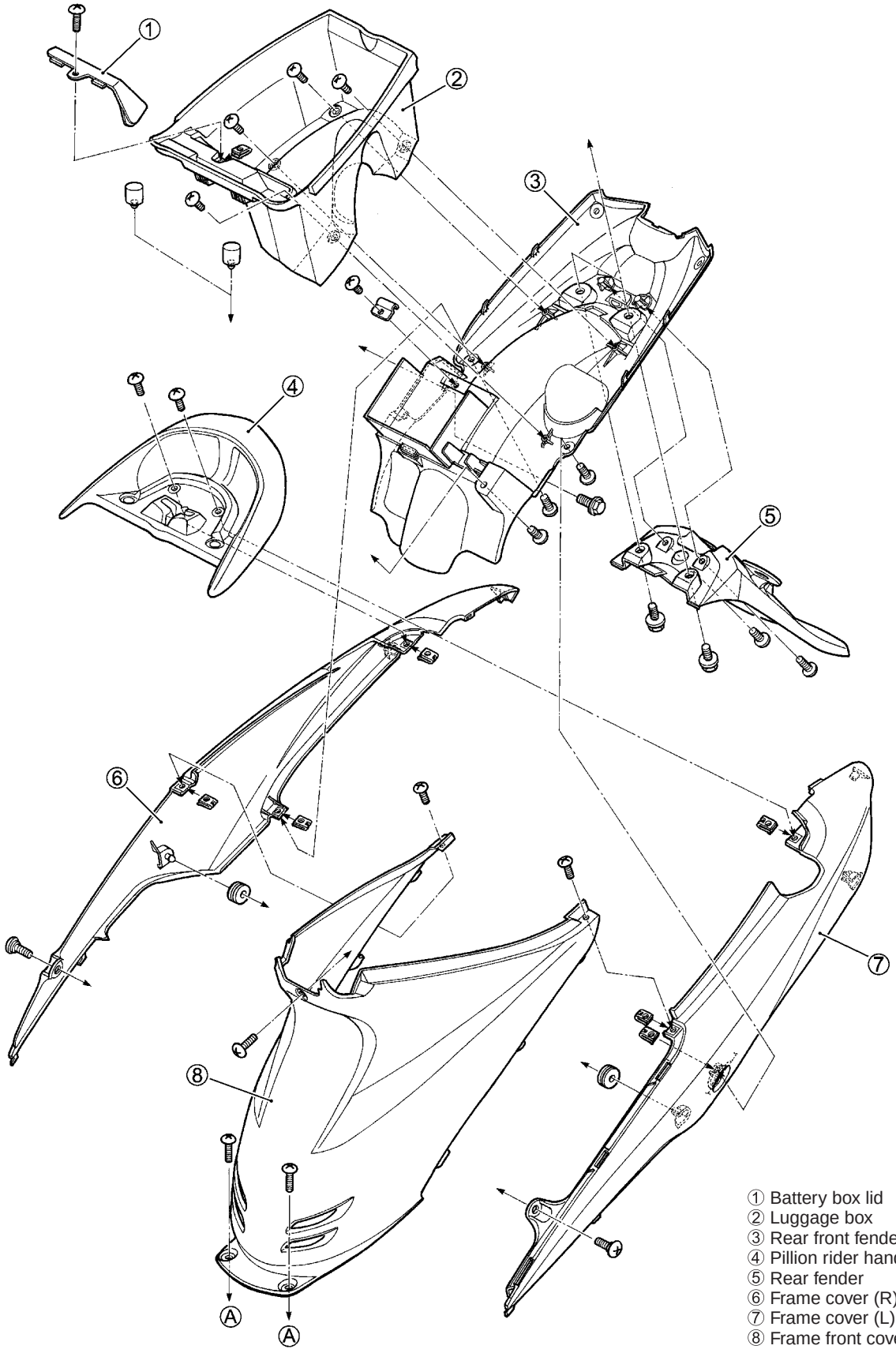

① Battery box lid
② Luggage box
③ Rear front fender
④ Pillion rider handle
⑤ Rear fender
⑥ Frame cover (R)
⑦ Frame cover (L)
⑧ Frame front cover

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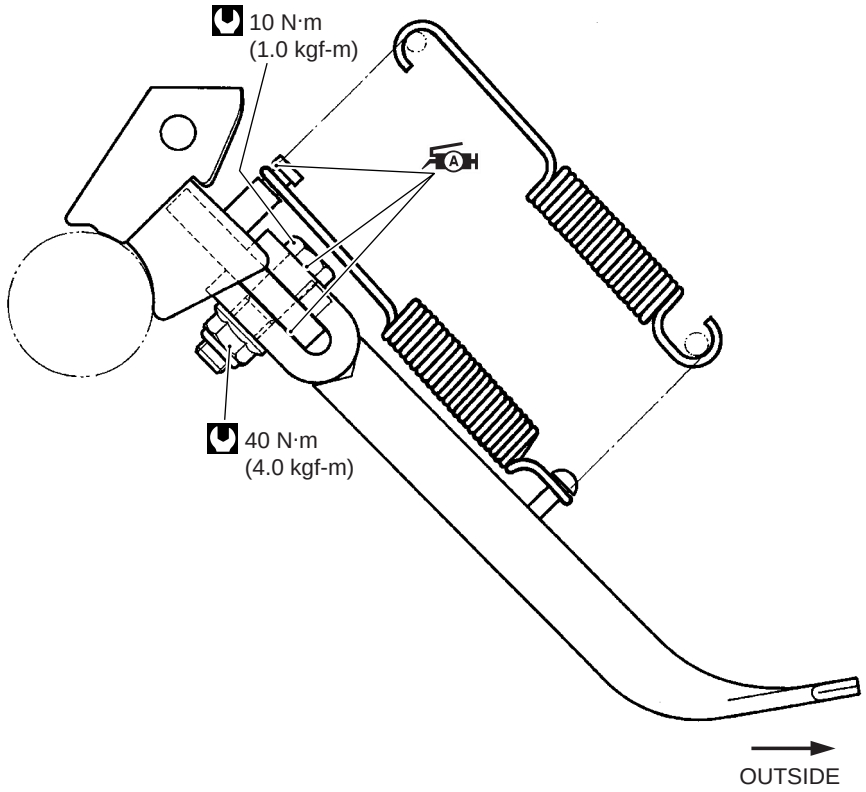
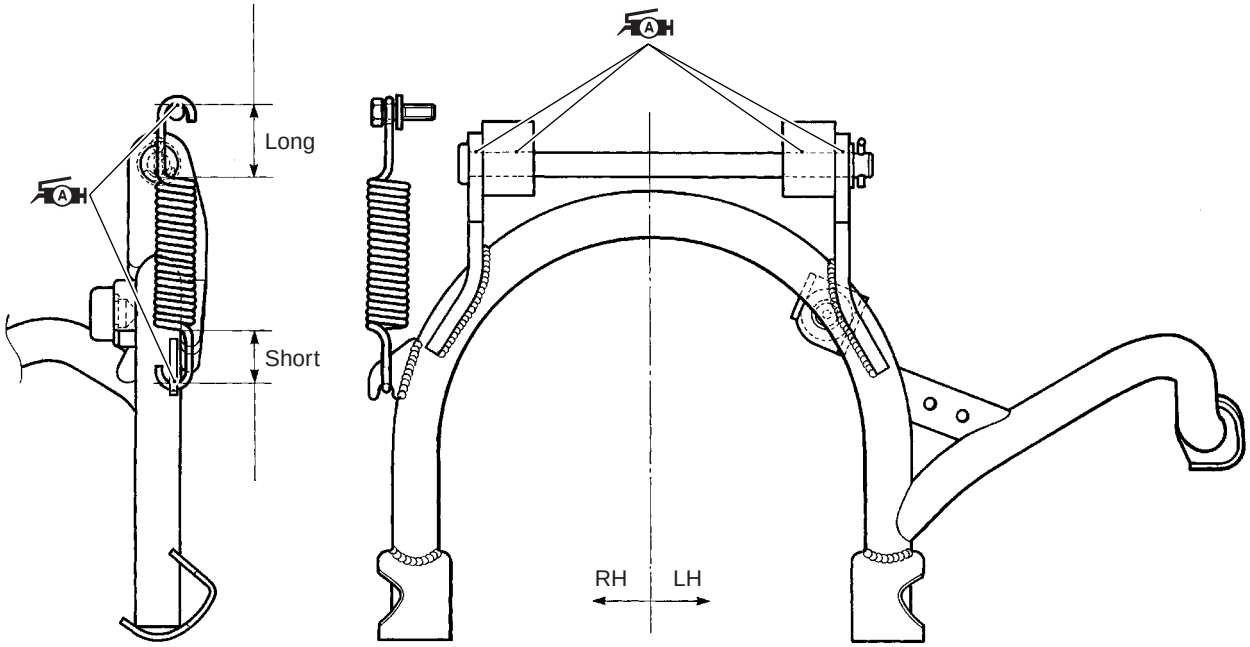
PROP STAND INSTALLATION



CENTER STAND INSTALLATION



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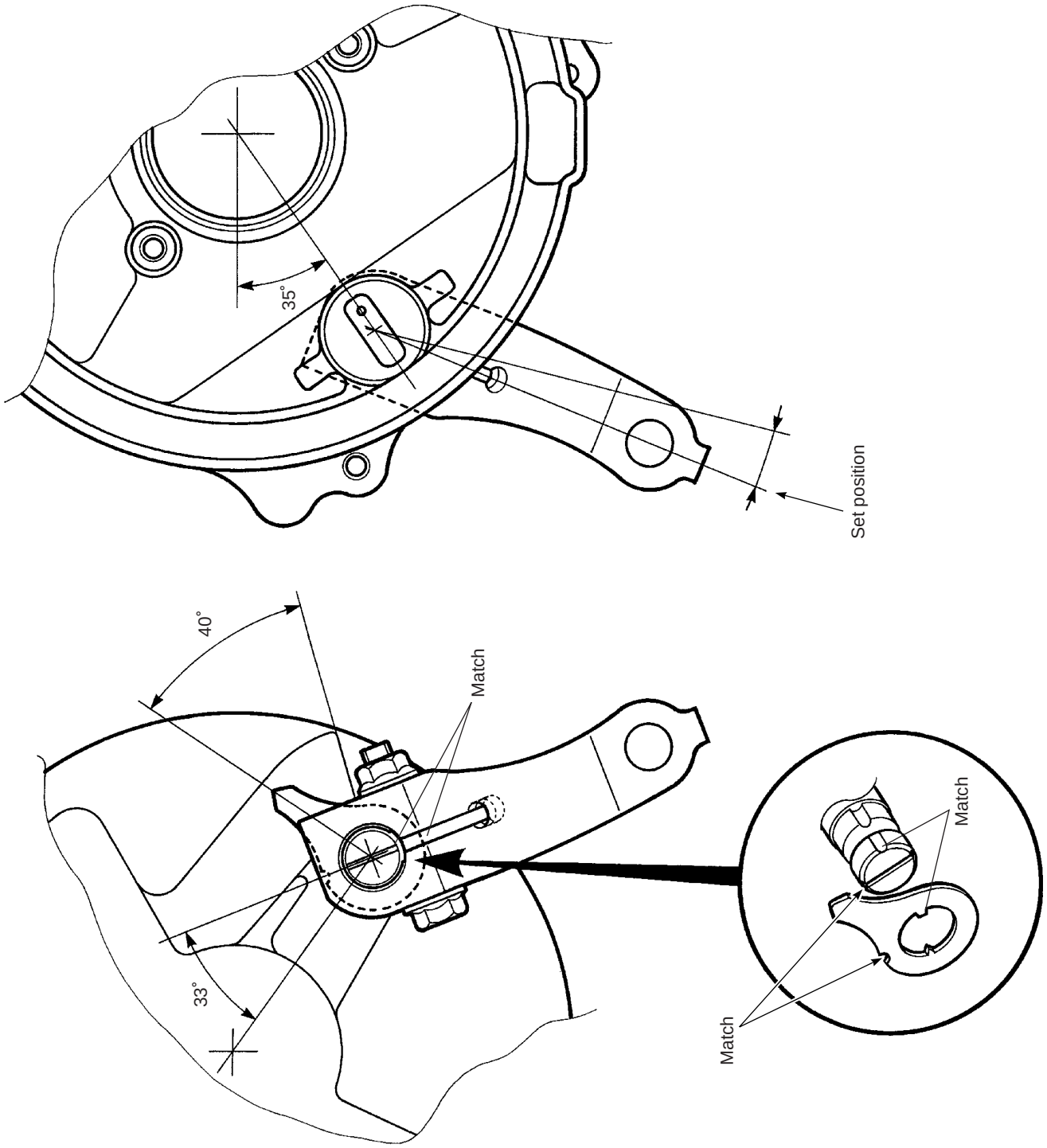
REAR BRAKE CAM LEVER INSTALLATION



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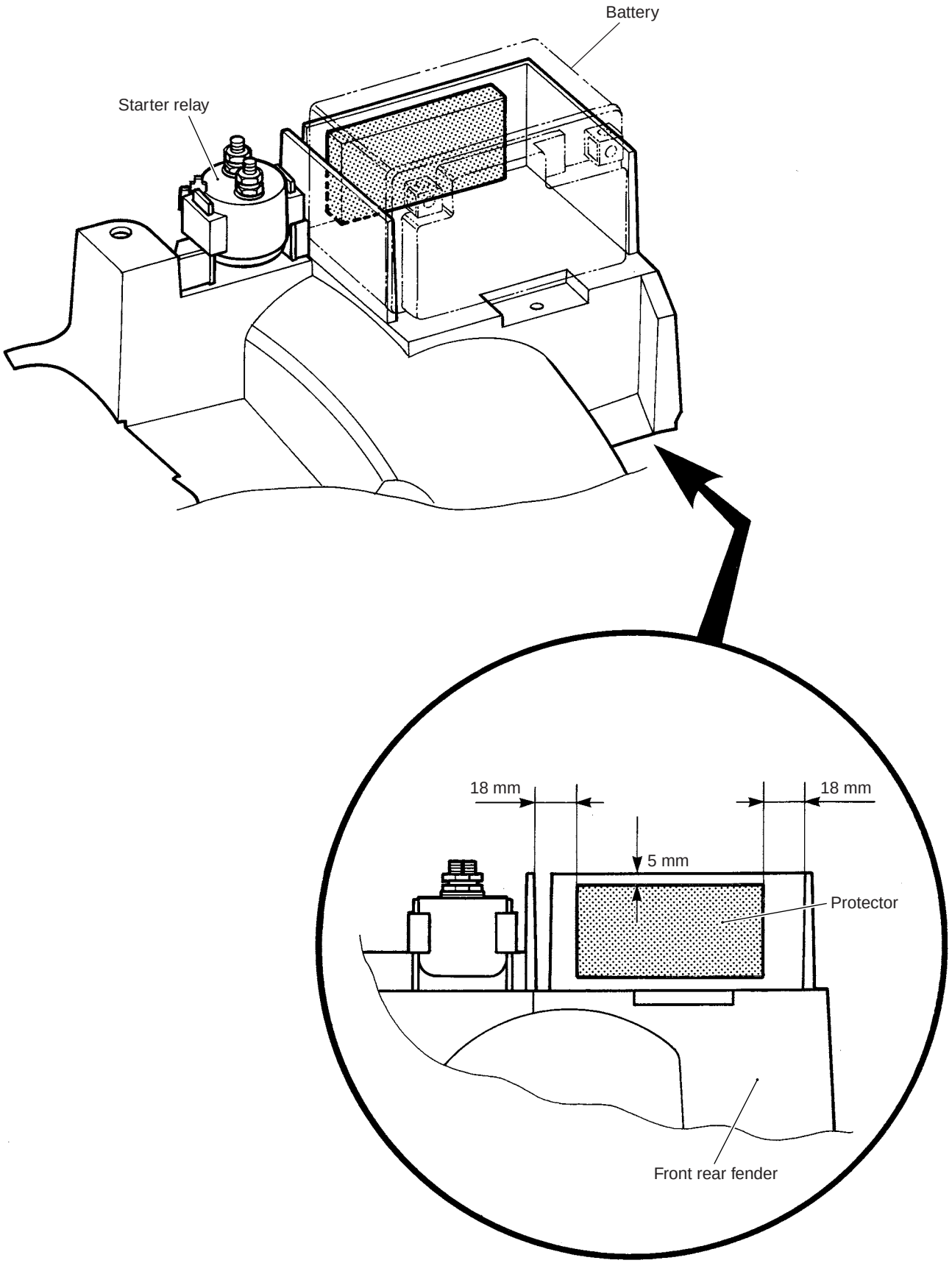
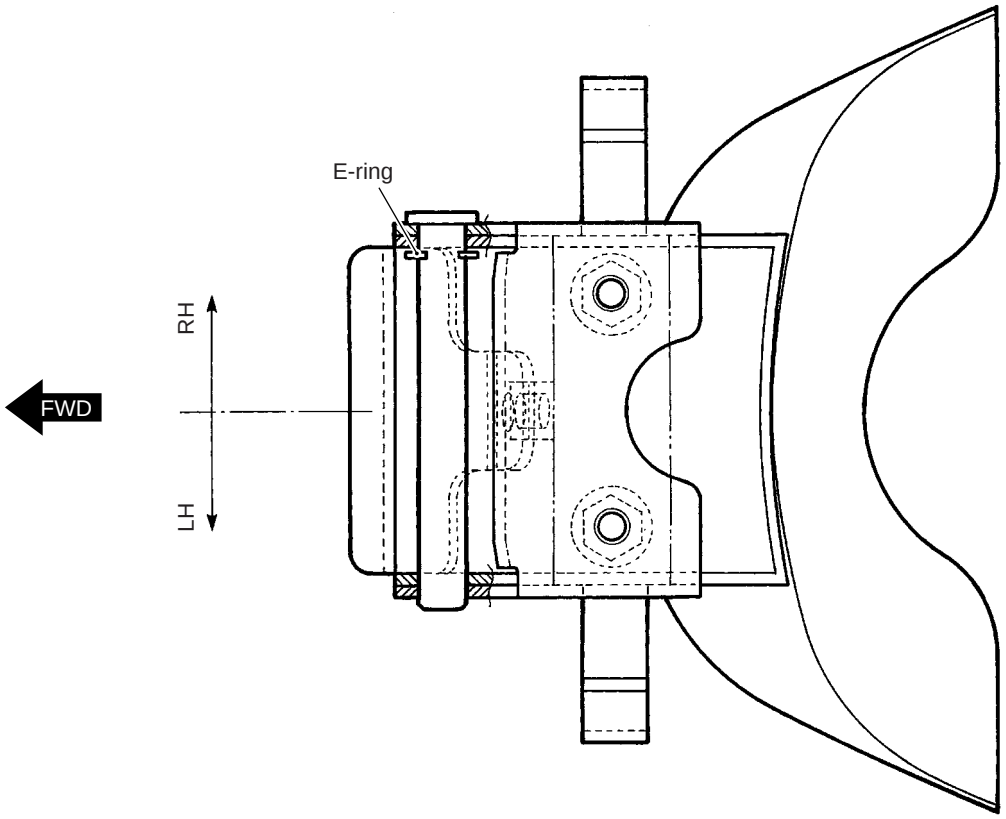
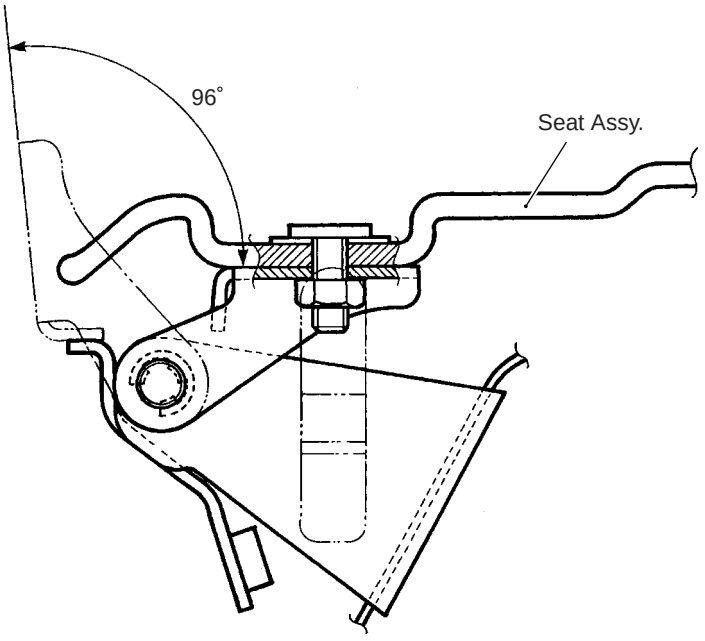
BATTERY INSTALLATION



SEAT HINGE INSTALLATION





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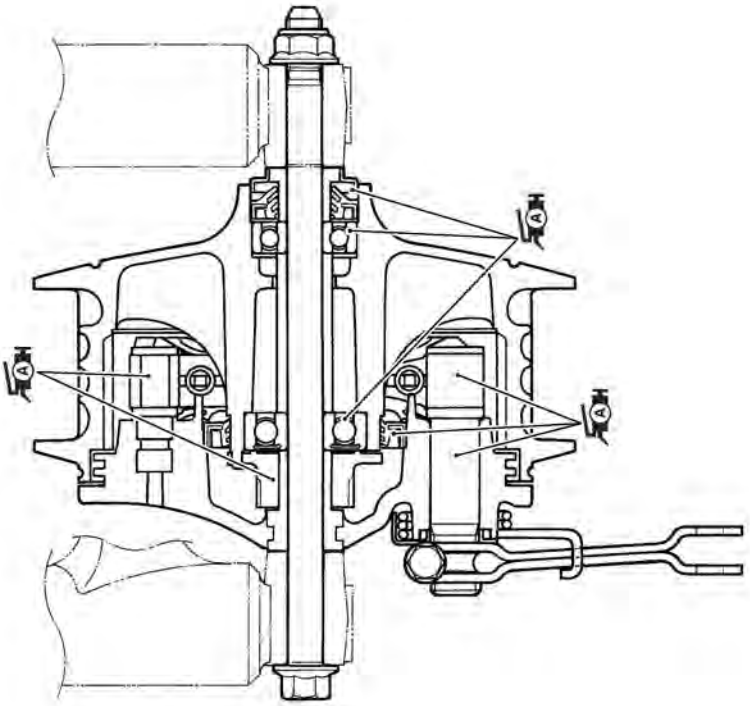
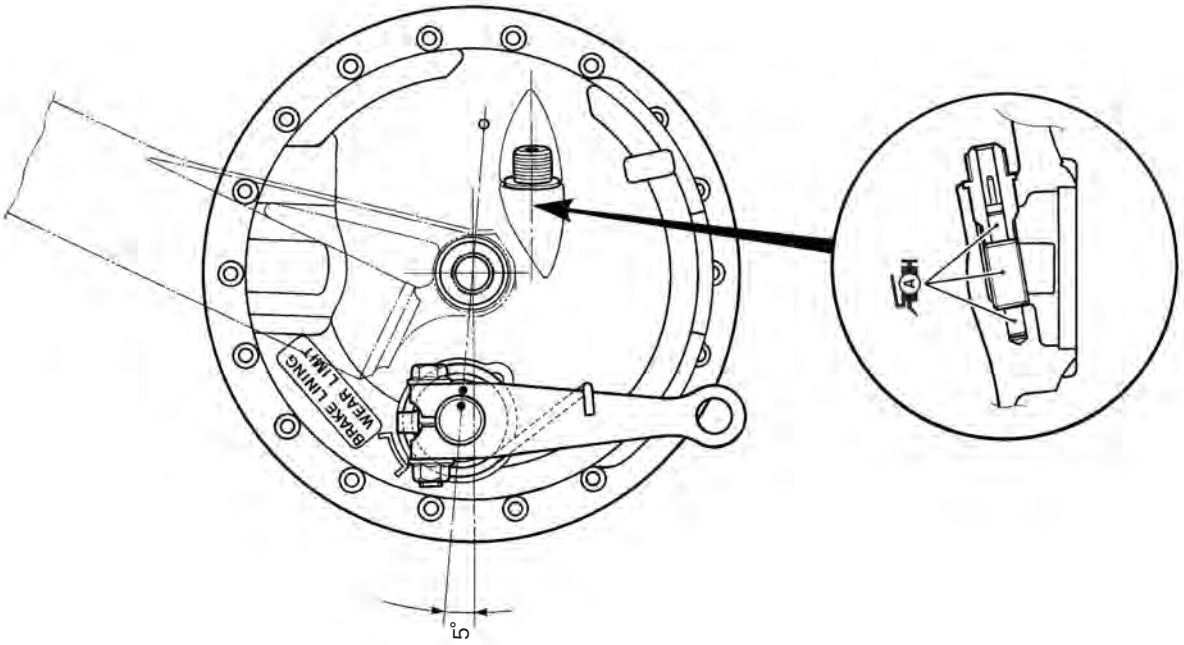
FRONT WHEEL (UY125)





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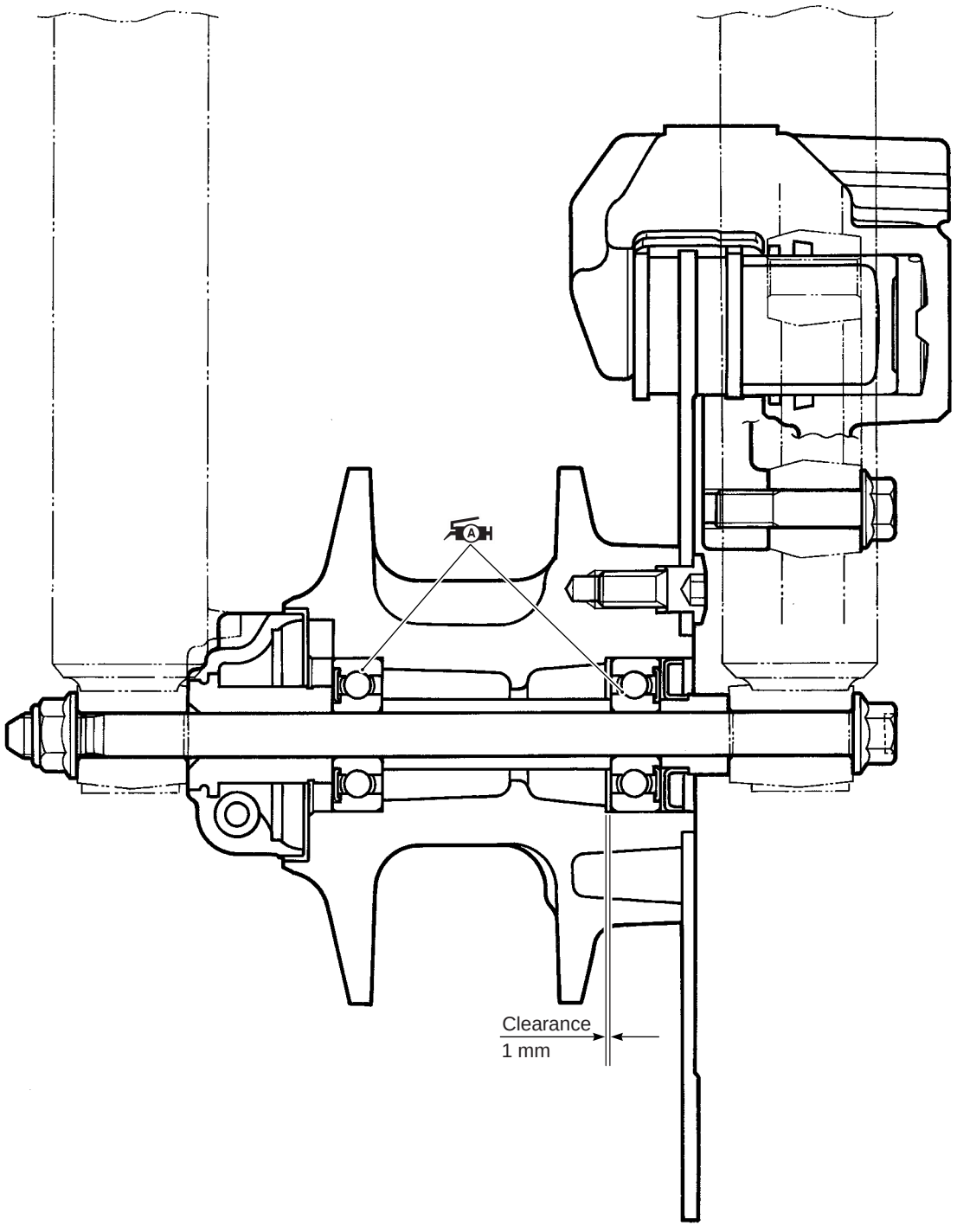
FRONT WHEEL (UY125S)



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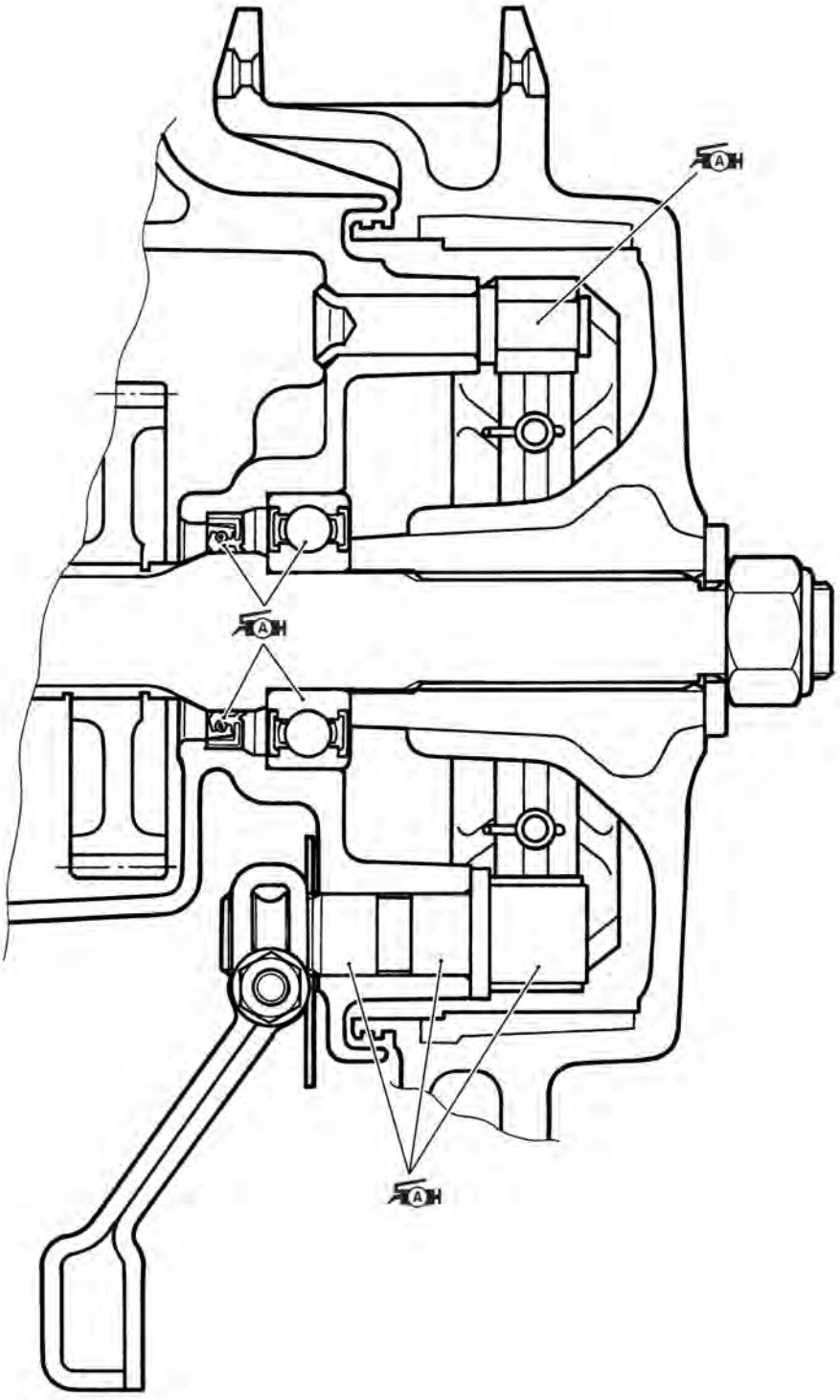
REAR WHEEL



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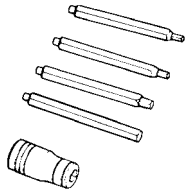
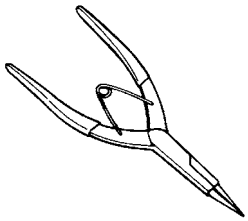
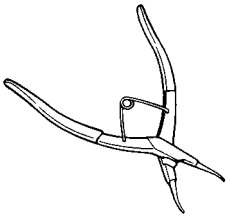
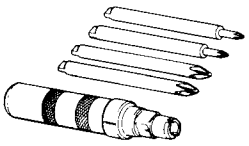
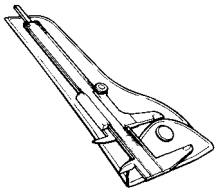
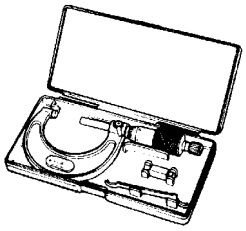
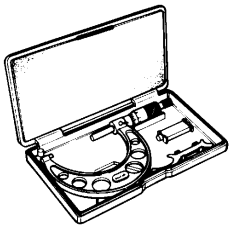
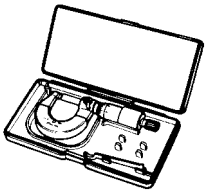
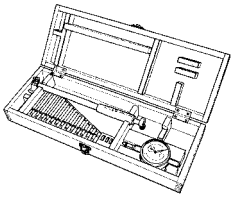
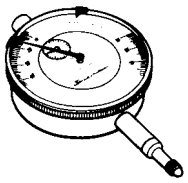
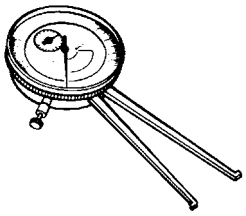
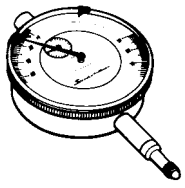
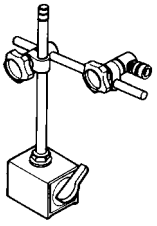
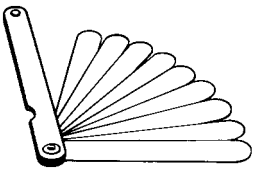
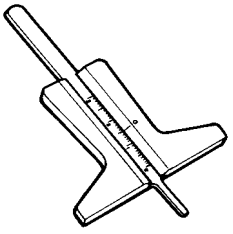
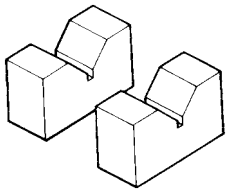
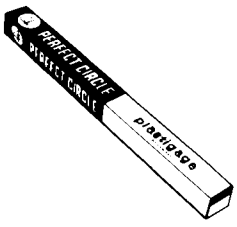
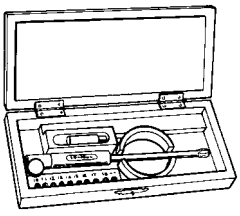
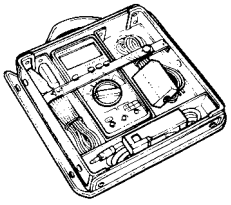
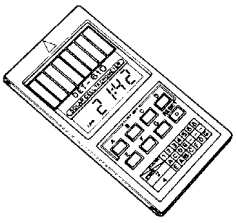
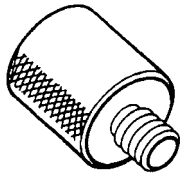
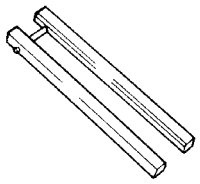
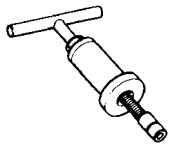
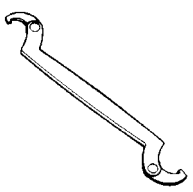
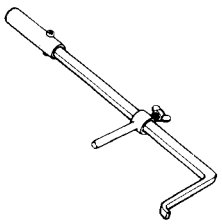
SPECIAL TOOLS

				
09900-00410 **Hexagon wrench set**	**09900-06107** **Snap ring pliers**	**09900-06108** **Snap ring pliers**	**09900-09004** **Impact driver set**	**09900-20101** **09900-20102** **Vernier calipers**
				
09900-20202 **Micrometer** **(25 – 50 mm)**	**09900-20203** **Micrometer** **(1/100 mm, 50 – 75 mm)**	**09900-20205** **Micrometer** **(1/1 000 mm, 0 – 25 mm)**	**09900-20530** **Cylinder gauge set** **(1/100 mm, 40 – 80 mm)**	**09900-20602** **Dial gauge** **(1/1 000 mm, 1 mm)**
				
09900-20605 **Dial calipers** **(1/100 mm, 10 – 34 mm)**	**09900-20607** **Dial gauge** **(1/100 mm, 10 mm)**	**09900-20701** **Magnetic stand**	**09900-20803** **Thickness gauge**	**09900-20805** **Tire depth gauge**
				
09900-21304 **V-block set (100 mm)**	**09900-22301** **09900-22302** **Plastigauge**	**09900-22401** **Small bore gauge** **(10 – 18 mm)**	**09900-25008** **Multi-circuit tester set**	**09900-26006** **Tachometer**
				
09910-11310 **Crankshaft installer attachment**	**09910-20116** **Conrod stopper**	**09910-32812** **Crankshaft installer**	**09910-60611** **Universal clamp wrench**	**09913-50121** **Oil seal remover**

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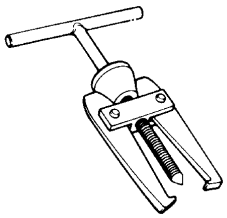
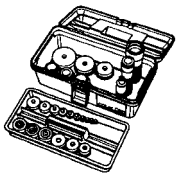
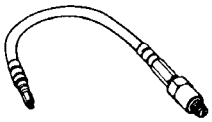
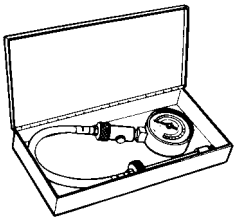
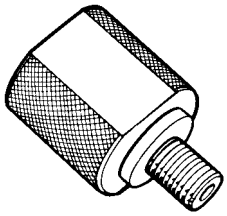
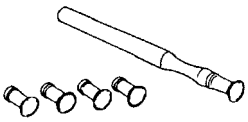
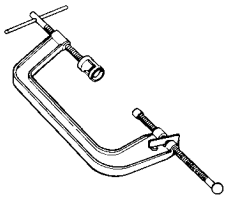
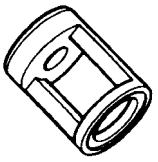
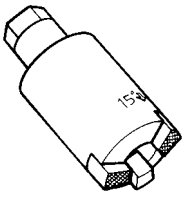
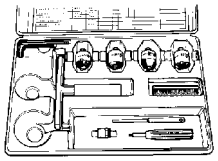
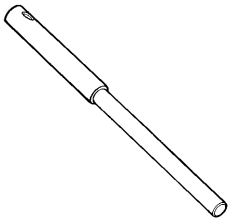
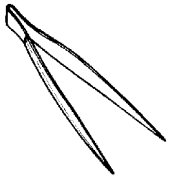
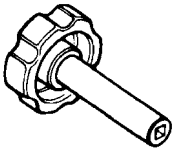
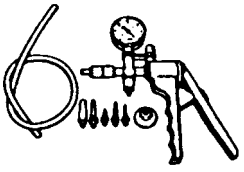
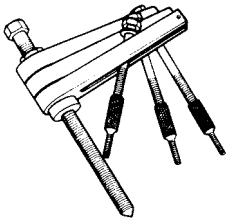
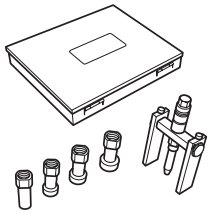
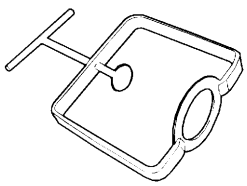
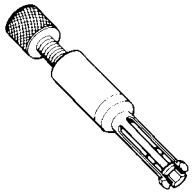
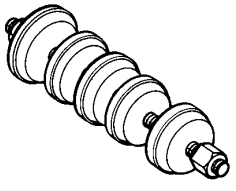
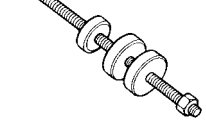
				
09913-60910 **Bearing puller**	**09913-70210** **Bearing installer set**	**09915-63311** **Compression gauge adaptor**	**09915-64512** **Compression gauge**	**09915-74531** **Oil pressure gauge attachment**
				
09915-74511 **Oil pressure gauge**	**09916-10911** **Valve lapper set**	**09916-14510** **Valve lifter**	**09916-14521** **Valve lifter attachment**	**09916-20630** **Valve seat cutter (N-126)**
				
09916-21111 **Valve seat cutter set**	**09916-24311** **Solid pilot (N-100 5.0)**	**09916-34542** **Valve guide reamer handle**	**09916-34570** **Valve guide reamer (5.0 mm)**	**09916-34580** **Valve guide reamer (10.8 mm)**
				
09916-44310 **Valve guide remover/installer**	**09916-84511** **Tweezers**	**09917-14910** **Valve clearance adjusting driver**	**09917-47010** **Vacuum pump gauge**	**09920-13120** **Crankcase separator**
				
09921-20240 **Bearing remover set**	**09922-31430** **Clutch spring compressor**	**09923-73210** **Bearing puller (17 – 20 mm)**	**09924-84510** **Bearing installer set**	**09924-84521** **Bearing installer set**

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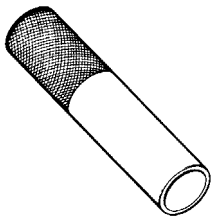
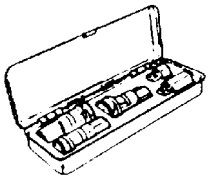
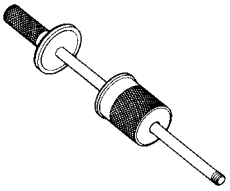
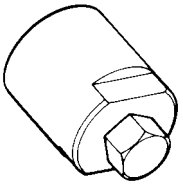
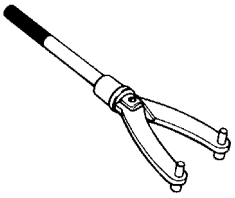
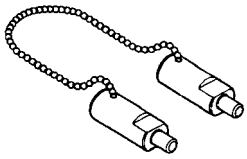
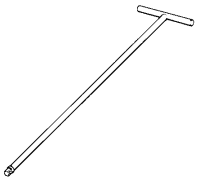
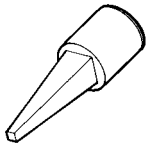
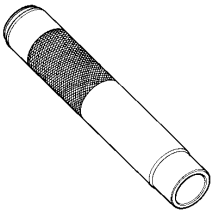
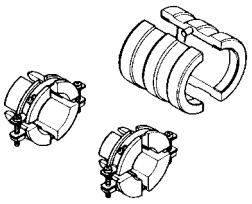
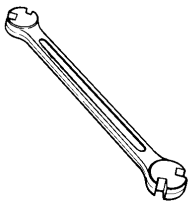
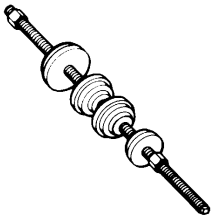
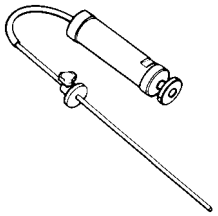
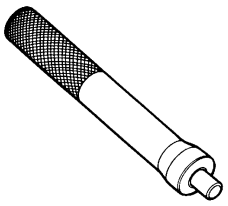
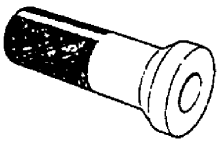
 **09925-98221 Bearing installer**	 **09930-10121 Spark plug socket wrench set**	 **09930-30104 Sliding shaft**	 **09930-34980 Rotor remover**	 **09930-40113 Rotor holder**
 **09930-40120 Rotor holder attachment (A)**	 **09940-34520 "T" handle**	 **09940-34561 Attachment (D)**	 **09940-51710 Bearing installer**	 **09940-52861 Front fork oil seal installer set**
 **09940-60113 Spoke nipple wrench**	 **09941-34513 Steering outer race installer**	 **09943-74111 Fork oil level gauge**	 **09943-88211 Bearing installer**	 **09951-16080 Bearing installer**

NOTE:
Before placing order for the special tool, please check for availability.

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TIGHTENING TORQUE
ENGINE

ITEM		N·m	kgf-m
Cylinder head cover bolt	Initial	10	1.0
	Final	14	1.4
Crank case bracket nut		102	10.2
Engine mounting nut		85	8.5
Breather cover bolt		10	1.0
Intake pipe mounting bolt		10	1.0
Cylinder head nut		25	2.5
Cylinder head side nut		10	1.0
Spark plug		11	1.1
Valve clearance adjuster locknut		10	1.0
Magnetorotor nut		120	12.0
Clutch housing nut		50	5.0
Clutch shoe nut		60	6.0
Fixed drive face nut		50	5.0
Stator coil bolt		6	0.6
Crankcase bolt		10	1.0
Magneto cover bolt		10	1.0
Cam chain tensioner bolt		10	1.0
Cam chain tension adjuster mounting bolt		10	1.0
Oil drain plug		18	1.8
Main oil gallery plug		12	1.2
Camshaft sprocket bolt		11	1.1
Starter motor mounting bolt		10	1.0
Clutch cover bolt		10	1.0
Oil pump mounting screw		8	0.8
Reduction gear cover bolt		10	1.0
Cooling fan holder nut		33	3.3
Cooling fan bolt		10	1.0
Oil sump filter cap bolt		10	1.0
Oil filter cap bolt		10	1.0
Oil pump cover bolt		10	1.0
Kick starter lever bolt		26	2.6
Starter clutch bolt		10	1.0

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CHASSIS

ITEM		N·m	kgf-m
Front axle nut		42	4.2
Steering stem lock-nut		90	9.0
Handlebar clamp nut		60	6.0
Brake cam lever nut	Front (UY125)	8	0.8
	Rear	11	1.1
Rear axle nut		120	12.0
Rear shock absorber mounting nut		29	2.9
Front fork clamp bolt		28	2.8
Front fork cap bolt		33	3.3
Damper rod bolt		23	2.3
Front brake caliper mounting bolt (UY125S)		25	2.5
Brake hose union bolt (UY125S)		23	2.3
Brake disc bolt (UY125S)		23	2.3
Air breeder valve (UY125S)		7.5	0.75
Brake master cylinder bolt (UY125S)		10	1.0
Spoke nipple		4.5	0.45

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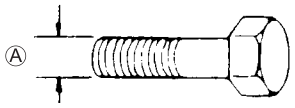
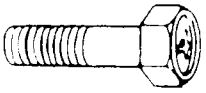
TIGHTENING TORQUE CHART

For other nuts and bolts not listed in the preceding page, refer to this chart:

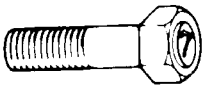
Bolt Diameter Ⓐ (mm)	Conventional or "4" marked bolt		"7" marked bolt	
	N·m	kgf-m	N·m	kgf-m
4	1.5	0.15	2.3	0.23
5	3	0.3	4.5	0.45
6	5.5	0.55	10	1.0
8	13	1.3	23	2.3
10	29	2.9	50	5.0
12	45	4.5	85	8.5
14	65	6.5	135	13.5
16	105	10.5	210	21.0
18	160	16.0	240	24.0



Conventional bolt



"4" marked bolt



"7" marked bolt

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SERVICE DATA

VALVE + GUIDE

Unit: mm

ITEM	STANDARD		LIMIT
Valve diam.	IN.	25.0	—
	EX.	22.0	—
Valve clearance (when cold)	IN.	0.04 – 0.07	—
	EX.	0.10 – 0.15	—
Valve guide to valve stem clearance	IN.	0.010 – 0.037	—
	EX.	0.030 – 0.057	—
Valve guide I.D.	IN. & EX.	5.000 – 5.012	—
Valve stem O.D.	IN.	4.975 – 4.990	—
	EX.	4.955 – 4.970	—
Valve stem deflection	IN. & EX.	—	0.35
Valve stem runout	IN. & EX.	—	0.05
Valve head thickness	IN. & EX.	—	0.5
Valve stem end length	IN. & EX.	—	2.2
Valve seat width	IN.	0.90 – 1.10	—
	EX.	0.92 – 1.12	—
Valve head radial runout	IN. & EX.	—	0.03
Valve spring free length	IN. & EX.	—	32.9
Valve spring tension	IN. & EX.	118 N (12.0 kgf) at length 26.8 mm	—

CAMSHAFT + CYLINDER HEAD

Unit: mm

ITEM	STANDARD		LIMIT
Cam height	IN.	27.92 – 28.02	27.62
	EX.	27.77 – 27.87	27.47
Rocker arm I.D.	IN. & EX.	10.003 – 10.018	—
Rocker arm shaft O.D.	IN. & EX.	9.981 – 9.990	—
Cylinder head distortion	—		0.05

CYLINDER + PISTON + PISTON RING

Unit: mm

ITEM	STANDARD		LIMIT
Compression pressure	750 – 1 200 kPa (7.5 – 12 kgf/cm²)		650 kPa (6.5 kgf/cm²)
Piston to cylinder clearance	0.020 – 0.030		0.120
Cylinder bore	53.500 – 53.515		53.610 Nicks or Scratches
Piston diam.	53.475 – 53.490 Measure at 10 mm from the skirt end.		53.380
Cylinder distortion	—		0.05
Piston ring end gap	1st	0.05 – 0.15	0.50
	2nd R	0.05 – 0.15	0.50
Piston ring to groove clearance	1st	—	0.180
	2nd	—	0.150

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ITEM	STANDARD		LIMIT
Piston ring groove width	1st	1.01 – 1.03	—
	2nd	1.01 – 1.03	—
	Oil	2.01 – 2.03	—
Piston ring thickness	1st	0.97 – 0.99	—
	2nd	0.97 – 0.99	—
Piston pin bore I.D.	14.002 – 14.008		14.038
Piston pin O.D.	13.996 – 14.000		13.980

CONROD + CRANKSHAFT

Unit: mm

ITEM	STANDARD	LIMIT
Conrod small end I.D.	14.006 – 14.024	14.064
Conrod deflection	—	3.0
Conrod big end side clearance	0.10 – 0.45	1.0
Conrod big end width	16.95 – 17.00	—
Crank web to web width	48.9 – 49.1	—
Crankshaft thrust clearance	0.02 – 0.07	—
Crankshaft runout	—	0.08

OIL PUMP

ITEM	STANDARD	LIMIT
Oil pressure (at 60 °C)	18 – 40 kPa (0.18 – 0.40 kgf/cm²) at 3 000 rpm	—

CLUTCH

Unit: mm

ITEM	STANDARD	LIMIT
Clutch housing I.D.	125.0 – 125.2	125.5
Clutch shoe thickness	—	2.5
Clutch engagement	2 900 – 3 500 rpm	—
Clutch lock-up	4 500 – 5 500 rpm	—

TRANSMISSION + DRIVE BELT

Unit: mm (Except ratio)

ITEM	STANDARD	LIMIT
Reduction ratio	2.700 – 0.825 (Variable change)	—
Final reduction ratio	9.264 (49/17 × 45/14)	—
Drive V-belt width	19.9	18.9
Movable driven face spring free length	105.0	99.8

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CARBURETOR

ITEM	SPECIFICATION
Carburetor type	BS26
Bore size	26 mm
I.D. No.	46G0
Idle rpm	1 600 ± 100 rpm
Fuel level	X.X ± X.X mm
Float height	XX.X ± X.X mm
Main jet (M.J.)	#95
Main air jet (M.A.J.)	Press-fitted
Jet needle (J.N.)	4CJ11-2
Needle jet (N.J.)	E-3M
Throttle valve (Th.V.)	#105
Pilot jet (P.J.)	#15
Pilot screw (P.S.)	2-1/4 turns back
Throttle cable play	2.0 – 4.0 mm

ELECTRICAL

Unit: mm

ITEM	SPECIFICATION		NOTE
Spark plug	Type	NGK: CR6HSA DENSO: U20FSR-U	
	Gap	0.6 – 0.7	
Spark performance	8.0 mm and over at 1 atm.		
Pick-up coil resistance	180 – 280 Ω		Bl/Y – Ground
Pick-up coil peak voltage	2.0 V and more		⊕: Bl/Y – ⊖: B/W
Ignition coil resistance	Primary	0.2 – 0.9 Ω	⊕ W/Bl – ⊖ B/W
	Secondary	11 – 20 kΩ	Plug cap – ⊖ B/W
Ignition coil primary peak voltage	150 V and more		⊕: Ground – ⊖: W/Bl
Stator coil resistance	Lamp	0.4 – 0.9 Ω	⊕: Y/W – ⊖: Ground
	Charge	0.6 – 1.1 Ω	⊕: W/R – ⊖: Ground
Stator coil no-load voltage (when cold)	Lamp	4 V and more at 5 000 rpm	⊕: Y/W – ⊖: Ground
	Charge	6 V and more at 5 000 rpm	⊕: W/R – ⊖: Ground
Starter motor bursh length	7		
Charging output	13.5 – 15.2 V at X 5 000 rpm		
Starter relay resistance	3 – 6 Ω		
Battery	Type designation	FTZ5S	
	Capacity	12 V 12.6 kC (3.5 Ah)/10 HR	
Fuse size	10 A		

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WATTAGE

Unit: W

ITEM		SPECIFICATION
Headlight	HI	30
	LO	30
Brake light/Taillight		18/5
Turn signal light		10
Speedometer light		3.4
High beam indicator light		1.7
Turn signal indicator light		1.7

BRAKE + WHEEL

Unit: mm

ITEM	STANDARD		LIMIT
Front brake cable play (UY125)	15 – 25		—
Rear brake cable play	15 – 25		—
Brake drum I.D.	Front	—	110.7
	Rear	—	130.7
Brake disc thickness (UY125S)	Front	3.5 ± 0.2	3.0
Brake disc runout (UY125S)	Front	—	0.30
Master cylinder bore (UY125S)	Front	11.000 – 11.043	—
Master cylinder piston diam. (UY125S)	Front	10.957 – 10.984	—
Brake caliper cylinder bore (UY125S)	Front	32.030 – 32.106	—
Brake caliper piston diam. (UY125S)	Front	31.950 – 32.000	—
Brake fluid type (UY125S)	DOT 4		
Wheel rim runout	Axial	—	2.0
	Radial	—	2.0
Wheel axle runout	—		0.25
Wheel rim size	Front	J14 × 1.40	—
	Rear	J14 × 1.60	—

SUSPENSION

Unit: mm

ITEM	STANDARD	LIMIT
Front fork stroke	85	—
Front fork spring free length	291.7	285.8
Front fork oil level (without spring, outer tube fully compressed)	93	—
Front fork oil type	SUZUKI FORK OIL G10 or an equivalent fork oil	—
Front fork oil capacity (each leg)	55 ml	—
Front fork inner tube diam.	ϕ 26	—
Rear wheel travel	80	—
Swingarm pivot shaft runout	—	0.6

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TIRE

ITEM	STANDARD		LIMIT
Cold inflation tire pressure	Front	175 kPa (1.75 kgf/cm²)	—
	Rear	225 kPa (2.25 kgf/cm²)	—
Tire size	Front	70/90-14 M/C (34P)	—
	Rear	80/90-14 M/C (40P)	—
Tire type	Front	IRC: NF59	—
	Rear	IRC: NR76	—
Tire tread depth	Front	—	1.6
	Rear	—	1.6

FUEL + OIL

ITEM	SPECIFICATION		NOTE
Fuel type	Gasoline used should be graded 91 octane or higher. An unleaded gasoline is recommended.		
Fuel tank capacity	3.7 L		
Engine oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Engine oil capacity	Change	950 ml	
	Filter change	1 050 ml	
	Overhaul	1 100 ml	
Reduction gear oil type	SAE 10W-40		
Reduction gear oil capacity	Change	100 ml	
	Overhaul	110 ml	

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